

BIOLOGICAL NURTURING®:

The Laid-back Breastfeeding Revolution

by Suzanne Colson

Biological nurturing (BN) is a new neurobehavioral approach to breastfeeding initiation that aims to reduce latching problems and early unintended breastfeeding cessation. In biological nurturing, mothers lean back and place the baby on top so that every part of the baby's body is facing, touching and closely applied to one of the mother's curves or to part of the surrounding environment. Nursing in a laid back position opens the mother's body which promotes neonatal locomotion by releasing up to 20 primitive neonatal reflexes which act as breastfeeding stimulants (Colson et al. 2008). BN is quick and easy to do—there is no lining up of body parts and no “correct” breastfeeding procedures. Instead mothers hold their babies for as long, as often and in as much skin-to-skin contact as they want even when the baby is not hungry or feeding. That introduces some subtle changes. BN is not just about breastfeeding; rather the approach in itself encourages mothers to keep the baby in the right place, what Nils Bergman (2008) calls the mammalian habitat. It is therefore not surprising that many mothers say BN helps them get to know their baby sooner. The laid-back postures are not only ideal to promote maternal comfort, but they also naturally lead to that fascinating “en-face” mother-baby conversation first documented by Klaus and Kennel (1976). During BN mother's shoulders, neck and head are supported while they gaze, groom and coo at their newborn. Each baby's unique behavioral response is usually the only breastfeeding instruction a mother needs.

Biological nurturing also has advantages for health care providers. For instance, it saves time, as routine instruction of breastfeeding skills becomes unnecessary. Furthermore, BN is anchored in the qualitative presence of inborn baby reflexes that have always been used to assess nervous function (Peiper 1963; Prechtel 1977; Amiel-Tison and Nugent 1984; Brazelton and Nugent 1995; Dubowitz et al. 1999).

Building upon medical procedures evaluations, the BN professional assessment also acts as a screening test, helping midwives, lactation consultants and other health care providers detect any neonatal neurological problems sooner.

Even though I often call BN a new approach, the laid-back component central to the concept is not really new. Mothers who enjoy breastfeeding have always varied the degree of their body slope in certain environments such as the privacy of their own home or in public when the furniture and general setting is appropriate. However, many do not realize that they are nursing in a semi-reclined posture. This may be because breastfeeding whilst lying back has been frowned upon in mainstream literature and culture. Biological nurturing is much more than a feeding posture, and my research findings offer evidence-based explanations for how the components of BN interact to aid breastfeeding initiation. Practically speaking, that means health care providers now have research data to back up suggestions to use the laid-back approach as an alternative, and maybe a more species specific way, to initiate breastfeeding (Colson 2010). This has resulted in an explosion of people using BN... a real laid-back breastfeeding revolution!

Mothers and health care providers alike write me with questions. Sometimes they ask why we need a new breastfeeding vocabulary, but most of the time they request a better understanding of the idea behind BN, its components and how to apply the laid-back mechanisms clinically. This article clarifies the concept and the different parts of BN and how they interrelate and interact to help mothers get started with breastfeeding. I will also summarize the mechanisms of how and why BN works. Finally, I will touch upon the need for new words and will conclude by exploring the breastfeeding relationship—the essence of biological nurturing.

What Is Biological Nurturing?

Biological nurturing is a mother-centered approach and the words are purposefully abstract, prompting mothers to define the meaning. Nevertheless, BN brings together a range of optimal mother-baby breastfeeding positions, states and behaviors. By definition, these variables change from mother to mother, from baby to baby and from feed to feed. The six components of biological nurturing (mother postures, baby positions, neonatal state, maternal hormonal state or complexion, primitive neonatal reflexes and innate maternal breastfeeding behaviors) interrelate constantly, producing changes even during the same feed.

As soon as baby lies prone on top of mom's gentle body slope, gravity keeps their bodies together. Any movement causes his body to brush against his mother, and these positional interactions appear to release spontaneous or innate mother-baby feeding behaviors. The ease and freedom of breastfeeding position inherent in BN are relatively new. Up until 2010, expert professional consensus dating from Gunther's (1945, 1973) work examining sore nipples in the 1940s discouraged mothers from leaning back to breastfeed. During those years, health care providers taught mothers to sit upright or lie on their sides. Beginning around 1985, anytime photographs or line drawings in text or instructional books for mothers portrayed mothers leaning back, they were often covered by a large X, suggesting that the laid-back posture was incorrect (RCM 1985, 2002). Although no research data supported the routine use of the “correct” upright and side-lying positions, speculations often accompanied the X-marked pictures expressing fears about mastitis and untested theories about erroneous ways mother's breasts might hang in the laid-back postures (RCM 1985, 2002). The mainstream breastfeeding literature has recently introduced biological nurturing (Mohrbacher 2010; LLL 2010; Genna Watson 2010), although prescriptive posi-

tioning and unfounded beliefs can still be found in the breastfeeding chapters of some current UK midwifery textbooks (Ackerman 2010). In a hospital postnatal ward in the UK, many mothers would not dare to breastfeed in a laid-back posture, as the following testimonial suggests:

My son was placed to my breast shortly after birth and fed for about 35 minutes, and it was fabulous. The midwife was very relaxed and simply placed him there and let him do his own thing, while I laid back and relaxed! I decided then and there that breastfeeding was definitely for me, but was very apprehensive as I had heard so many negative things regarding it, and I did not know anyone who had successfully breastfed for any length of time. I am certain that if my midwife had not been so natural and relaxed about the first feed, things would have been very different for me! I was moved to the postnatal ward a few hours after the birth. It was horrendous. Nurses stood guard and scrutinized every move I made breast-wise! It was here that I heard the mantra “tummy to mummy, nipple to nose” spoken aloud. I had read about it before but didn’t realize it was almost treated as the law! I hate those words now; I found myself repeating them in my head and didn’t dare deviate. I was also told to sit bolt upright. I was intimidated when a lineup of three nurses stood in front of me, watching me try to force my baby to latch on. They said I couldn’t go home until I could manage to feed him, but I just wanted to be out of there. I tried to let him find his way to the nipple

and was immediately berated for it. Now you can see why I would have appreciated being told that there are alternative ways to breast feed. The hospital staff was obsessed with breast feeding without seeming to offer any practical advice except for the instructions printed in the government leaflets. I have learned now that, as a mother, your instincts CAN be trusted and that your baby is well-equipped to feed himself if given the chance. I just needed someone to tell me this at the time.

The origins, background and development of BN through clinical practice and several research projects are explained in my book, *An Introduction to Biological Nurturing: New Angles on Breastfeeding*. The following paragraphs, some of which are extracted from my book, explain how the 20 primitive neonatal reflexes (PNRs) that we described could either stimulate or thwart latch. Unexpectedly, mothers’ laid-back postures were central to the expression of the reflexes as breastfeeding stimulants. This leads us first to explore these unforeseen findings and then to introduce reflex theory as a way to overcome latch refusal.

The Role of Primitive Neonatal Reflexes (PNRs)

Rooting and sucking are well-known feeding reflexes, yet few researchers have examined the role other PNRs might play in the feeding context. That was the focus of my doctoral study, in which I studied biological nurturing positions to discover if BN releases PNRs as feeding stimulants as it appeared to do in prior research. My research was supported by rigorous scientific scrutiny; I was supervised by a panel of academic and clinical experts including two neonatologists, a lactation consultant, a cranial osteopath and a La Leche League peer supporter. We never imagined that PNRs could have a negative role in the feeding context. Yet time and again, we saw reflexes pushing the baby away from the breast such as jerky movements like head shaking, leg scrambling, body flinging, arm thrashing, fighting, scratching and leg cycling movements that looked like kicking. We never anticipated such movements. On the other hand, we sometimes observed these same movements as smooth

and coordinated, helping the baby find the breast, latch on and feed. The same reflexes appeared to either thwart feeding attempts or stimulate successful latching behaviors and promote successful breastfeeding.

Researchers such as Prechtl (1977), Brazelton and Nugent (1995), Amiel-Tison and Grenier (1984) and Dubowitz (1999) have always described rooting and sucking as feeding stimulants. Therefore, the dual role that these PNRs appeared to play caught us by surprise. At the same time, during data analysis, the mother’s breastfeeding position emerged as unquestionably the single most important variable, either releasing the reflexes as breastfeeding stimulants or barriers. Results clearly demonstrated a statistically significant difference: more reflexes were released as stimulants when mothers laid-back than when they sat upright or laid on their sides. This important finding has clinical implications, particularly in cases where babies refuse to latch onto the breast.

Latch and Suck Failure

Consecutive UK feeding surveys characterize latch failure either as “fighting the breast” or as “breast refusal,” where a baby who should be hungry is either too sleepy to latch or fails to suck (Bolling et al. 2007; Foster et al. 1997; Hamlyn et al. 2002; Martin and Monk 1982; Martin and White 1987; White, Freeth and O’Brien 1992). These surveys also demonstrate a trend: latch/suck failure causes more mothers to give up breastfeeding during the first postnatal week than any other problem. However, few clinicians describe objectively the specific behaviors associated with latch and suck failure. Objective description comprises what clinicians can see or hear. Gohil (2006), is the exception, offering a vivid account of what he calls a new breastfeeding behavior observed during engorgement. Termed “breast boxing,” he describes some PNR-like movements associated with latch failure that we saw time and again in my study. Gohil (2006) writes, “It was observed that the infant does not suckle and pushes himself away with his fisted hands at the breasts or abdomen of the mother, and kicks away at the mother’s abdomen and avoids feeding.”

Our data suggested that these kicking and pushing away behaviors were often combined with increasingly frenetic activ-



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ity and to-and-fro horizontal head shaking that thwarted latch. Typically, the baby was in a quiet alert state at the start of the feed, in skin-to-skin contact or lightly dressed. After about a minute and unable to latch, side-to-side head rooting movements increased in frequency and intensity. These movements were often accompanied by the hand-to-mouth reflex, where the hungry baby appeared to prefer sucking on his fist instead of the breast.

The Baby Friendly Initiative (BFI), a global World Health Organization effort to promote and support breastfeeding, also recorded these behavioral phenomena and suggested that mothers think that the head shaking means the baby is “saying no” to breastfeeding (WHO 1997). During the first videotaped episode in my study, over half of the breastfed babies displayed these negative behaviors, preventing them from latching. Mothers often feared breast rejection. They said the baby did not like breastfeeding. The BFI is quick to reassure that contrary to maternal interpretation, this is normal behavior, and I agree with this point. Rooting can be characterized by a range of movements from lip twitches to exaggerated side-to-side head turning. Together with the hand-to-mouth reflex and arm and leg cycling, these are an integral part of the normal behavioral repertoire of the neonate. However, we observed systematically that in certain positions, these inborn movements were obstructive and we agreed that this was due to the effects of gravity. It was as if gravitational forces were pulling mothers and babies apart, dragging the baby out and down towards the pillow or the mother’s lap. Gravity appeared to override what might be considered the normal stimulatory nature of the reflex response in the feeding context.

How Does Position Affect the Expression of the Reflexes?

The mothers who experienced the PNRs as barriers were in skin-to-skin contact or lightly dressed and were lying on their side, sitting straight upright or leaning slightly forward. Upright mothers often placed the baby on a pillow in front of and at right angles to their bodies, and although the baby was turned towards his mother, there was usually a gap or angle between their

bodies. The baby’s thighs, calves and feet were often in contact with thin air. Importantly, mothers had to hold their babies by applying pressure along baby’s back to keep him at breast level and close enough to feed. We have termed this positional phenomenon dorsal feeding. The more the mother struggled to elicit mouth gape, leading in with the chin, the tighter she gripped the baby’s back. This firm grip often extended to the baby’s neck or head. The firmer the grip, the more the baby struggled with frantic arm and/or leg cycling PNRs, increasing in strength and amplitude as she worked herself up to a crying state.

Dorsal Feeding

Peiper (1963) compares and contrasts feeding positions across species, assuming that dorsal feeding (where mothers must physically hold their babies’ back) is uniquely human. In fact, we have always believed that our babies, unlike some of our mammalian cousins, are obligate dorsal feeders. Have you ever noticed that in upright positions, putting the baby to the breast or bottle feeding always includes applying pressure along the baby’s back? Experts studying the mechanisms of upright postures have suggested that this maintains positional stability and keeps the baby close and at breast level. If you thumb through any mainstream breastfeeding book prior to 2010, you will see mothers sitting upright or side-lying, applying this back pressure in almost every picture.

A Mammalian Position

In contrast, my research on BN positions found that the range of human locomotion aiding latch was limited when mothers cradled their babies in the traditional holds. As soon as mothers leaned back, their babies moved towards those abdominal feeding positions also described by Peiper (1963). In the abdominal positions, another baby reflex was observed—a pendular head bobbing movement. This appeared to be released from a fixed point in the baby’s spine, and was documented previously by Scheildt and Prechtel in 1951 and by Peiper in 1963. These vertical up and down head movements were noted to stimulate latch in non-human, abdominal-feeding mammals such as puppies and hamsters, where the baby’s tummy hugs the ground when

they feed. I called this neonatal position frontal feeding because our observations suggested that the contact extended beyond the abdomen. The entire frontal region of the body, extending from sternum to pubis and comprising the chest area as well as the abdomen was involved. Furthermore, in frontal positions, the baby’s thighs, calves and feet tops were spontaneously applied either to the mother’s body or to a part of the environment (the bed, sofa, chair, bed clothes, etc.).

In frontal feeding positions, babies often latched on without help and this action frequently appeared smooth and easy. In BN positions we also observed common points. First, mothers made themselves comfortable lying back to varying degrees of body slope. Second, the baby was neither vertical nor parallel to the mother’s body. Rather, baby often positioned himself by lying longitudinally (up and down) or obliquely, on top of the mother. In other words, unlike some of the lower mammals, the human baby always lay prone, but not flat; he was always slanted in what looked like a natural or physiological body tilt. This tilt was usually upward due to the gradient provided by the gentle maternal body slope. We interpreted this body tilt as a natural way to support neonatal respiration (Colson et al. 2008). Third, the frontal feeding baby often approached the breast as though searching, using the pendular head-bobbing reflex which involved the entire trigeminal area, not just the chin. Finally, mothers did not have to hold the baby: no back, neck or head pressure was necessary to achieve positional stability or to maintain the baby close and at breast level. Instead, gravitational forces helped to keep the baby on the mother’s body. Gravity also appeared to apply a slight pressure, making the reflexes smoother and more coordinated, aiding latch and sustaining milk transfer. In biological nurturing, the baby is the active agent often self-attaching and achieving his own positional stability.

Why Do We Need a New Vocabulary?

My study suggests that breastfeeding initiation has to do with releasing inborn baby reflexes and instinctive mothering behaviors.

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Biological Nurturing

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These are part of our genetic inheritance; they characterize the human capacity to breastfeed. The nature vs. nurture debate concerning how humans acquire bio-behaviors has been the subject of heated discussion for many years. Like many studies, my work suggests a blend of nature and nurture—hence the term biological nurturing. If breastfeeding initiation is about triggering and conditioning baby reflexes, as the BN data suggest, then creating an oxytocin-friendly environment that enables positional brushing releasing the baby reflexes is a priority. This highlights a need to reconsider some traditional support practices. For example, teaching breastfeeding skills and defining the characteristics of the “correct” latch make mothers think. Following instructions with great concentration stimulates neocortical activity that reduces oxytocin pulsatility. Likewise, when a midwife physically latches a reluctant baby, mothers often feel inadequate and become upset when their babies continue to resist vigorously. Mothers usually do not want people to force the baby to take the breast. In contrast, releasing baby reflexes with BN is easy, non-invasive and never involves force.

The term “laid-back breastfeeding” helps us to rethink aspects of current support strategies. Midwives have always believed that the maternal body is specifically designed for pregnancy and spontaneous birth. The double entendre in laid-back breastfeeding suggests that mothers can be relaxed and confident after the birth as well. When mom takes the lead doing BN in the human mammalian habitat, breastfeeding is no longer a rational choice. Instead it is part of a biological imperative enabling mom to personalize her experience. Breastfeeding becomes a normal activity of daily living with no steps or procedures to follow.

From a physiological perspective, mothers are constantly multi-tasking—breastfeeding whilst they eat and drink, walk, socialize, or work inside or outside the home. Biological nurturing brings out that everyday relationship that lies within the act of breastfeeding. The term relationship implies the public and private give and take between two people. In other activities of daily living, mothers guide and protect their babies and the breastfeeding relation-

ship is no different. Like any relationship, breastfeeding comprises both innate and acquired behaviors. However, for many years, breastfeeding as an acquired skill has revolved around procedures and techniques. The nurturing approach, has dominated our understanding. Nurturing focuses attention on hospital policies and relies upon specific steps to success and instructions that do not work for all mothers. Biological nurturing restores balance. The new terminology acknowledges the importance of culture and environment whilst making a powerful argument for the nature or innate component of breastfeeding. This is the essence of the BN concept that has unleashed a veritable laid-back breastfeeding revolution.

References:

- Ackerman, B. 2011. “Infant Feeding.” In *Maye’s Midwifery*, 14th ed, edited by S MacDonald and J McGill-Cuerden, 624–26. Elsevier: Bailliere Tindall.
- Bergman, N. 2008. “Kangaroo Mother Care.” <http://www.kangaroomothercare.com>.
- Amiel-Tison, C, and A Grenier. 1984. *La Surveillance Neurologique au cours de la Première Année de la Vie*. Paris: Masson.
- Bolling, K, C Grant, B Hamlyn and K Thornton. 2007. *Infant Feeding Survey 2005*. London: The Information Centre.
- Brazelton, TB, and JK Nugent. 1995. *Neonatal Behavioral Assessment Scale*, 3rd ed. London: Mac Keith.
- Colson, S. 2010. *An Introduction to Biological Nurturing, New Angles on Breastfeeding*. Texas: Hale.
- Colson, S. 2010. “What happens to breastfeeding when mothers lie back?” *Clinical Lactation*, Inaugural Issue 1 (2010): 11–14.
- Colson, SD, J Meek and JM Hawdon. 2008. “Optimal positions triggering primitive neonatal reflexes stimulating breastfeeding.” *Early Hum Dev* 84 (7): 441–49. <http://linkinghub.elsevier.com/retrieve/pii/S0378378207002423>.
- Colson, S. “The Mechanisms of Biological Nurturing.” PhD diss., Canterbury Christ Church University, 2006.
- Colson, S, L DeRooy and J Hawdon. 2003. “Biological nurturing increases breastfeeding duration.” *MIDIRS Midwifery Digest* 13 (1): 92–97.
- Dubowitz, L, V Dubowitz and E Mercuri. 1999. *The Neurological Assessment of the Preterm and the Full term Newborn Infant*, 2nd ed. London: Mac Keith.
- Gohil, JR. 2006. “Boxing neonate on an engorged breast, a new behavior identified.” *J Hum Lact* 23 (3): 268–69.
- Gunther, M. 1955. “Instinct and the nursing couple.” *The Lancet* 265 (6864): 575–78.
- Hamlyn, B, S Brooker, K Oleinikova and S Wands. 2002. *Infant Feeding 2000*. London: TSO.
- Klaus, MH, and JH Kennel. 1976. *Maternal-Infant Bonding*, 1st American ed. St Louis, MI: Mosby.
- Mohrbacher, N. 2010. *Breastfeeding Answers Made Simple*. Texas: Hale.
- Martin, J, and J Monk. 1982. *Infant feeding 1980*. London: OPCS.
- Martin, J, and A White. 1987. *Infant feeding 1985*. London: OPCS.
- Peiper, A. 1963. *Cerebral Function in Infancy and Childhood*, 3rd ed. Translated by B Nagler and H Nagler. New York: Consultants Bureau.
- Prechtl, H. 1977. *The Neurological Examination of the Full Term New Born Infant*, 2nd ed. London: William Heinemann.
- Royal College of Midwives. 1988. *Successful Breastfeeding*, 1st ed. London: RCM.
- Renfrew, M, C Fisher and S Arms. 1990. *Breastfeeding:*

Getting Breastfeeding Right for You, 1st ed. Berkeley: Celestial Arts.

Renfrew, M, C Fisher and S Arms. 2004. *Breastfeeding: Getting Breastfeeding Right for You*, 3rd ed. Berkeley: Celestial Arts.

Royal College of Midwives. 2002. *Successful Breastfeeding*, 3rd ed. London: Churchill Livingstone.

White, A, S Freeth and M O’Brien. 1992. *Infant feeding 1990*. London: OPCS.

Watson Genna, C. 2007. *Support Sucking Skills in Breastfed Infants*. Maine: Jones and Bartlett.

Wiessinger, D, D West and T Pittman. 2010. *The Womanly Art of Breastfeeding*. Chicago: La Leche League International.

World Health Organization. 1997. *Breast-feeding Management: a Modular Course*. London: WHO/UNICEF.



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adapted to begin breastfeeding directly after birth (after all, it’s crucial for their survival to know how to suck, and it protects mom, too). Babies have to extend their tongue over their gum line, lift up the sides of the tongue and create a peristaltic wave motion to effectively milk the breast. Many times when assessing baby’s tongue with a clean finger, you can feel the beautiful wave-like motion that nature designed to extract milk and how well the tongue extends to cover the bottom gum (thus protecting mom’s nipples from being chomped on while her baby nurses). Occasionally upon assessment it will be noted that the tongue is not extending over the gum line while nursing, leaving baby’s bottom gum exposed. Baby may bunch up the middle of the tongue or move the tongue around in his mouth in a way that