

What Happens to Breastfeeding When Mothers Lie Back?

Clinical Applications of Biological Nurturing

Suzanne Colson, RGN, RM, Ph.D.¹

Human neonates are born with an innate ability to find the breast, latch and feed. Unfortunately, some of these very reflexes can also hinder babies' efforts to breastfeed depending on the mother's posture. This article provides a brief overview on the mechanisms of biological nurturing (BN) and describes how practitioners can help mothers trigger innate feeding mechanisms so that they do not become barriers to breastfeeding.

Keywords: biological nurturing, primitive neonatal reflexes, mother's posture

From a survival standpoint, it makes evolutionary sense that neonates be born with a number of simple, innate movements enabling them to find the food source, latch on and feed. With the 20th century rise of bottle-feeding, however, we lost that sense of babies' ability to find the breast. More concerning are subtle ways bottle feeding norms still influence advice breastfeeding mothers receive. The current mainstream approach is that mothers need to sit upright to latch their babies (UNICEF UK et al., 2008). Inherent in this approach is that mothers must counteract gravity by applying pressure along the baby's back.

Indeed, our findings suggest that when mothers sit upright, or even when they lie on their sides, gravity pulls the baby away from the mother's body. To counteract gravitational forces, mothers hold their babies close; these holds often suppress, limit, or even waste innate baby feeding reflexes. In fact, these same reflexes may actually become barriers (rather than aides) to latch and sustained milk transfer (Colson et al., 2008).

The Role of the Primitive Neonatal Reflexes

Our research revealed that during breastfeeding, babies use 20 primitive neonatal reflexes (PNRs). PNRs are indicators of neurological function, and are an important component of biological nurturing (BN). Surprisingly, many of the 20 PNRs described during the work appeared to have a dual role—either helping or hindering breastfeeding [[learn more about this study](#)].

An unexpected finding from this study was that mother's posture influenced the role that the PNRs played. As soon as mothers lie back, they look comfortable, relaxed and focused upon their babies—often smiling, giggling and oblivious to the world. The baby finds the breast using his inborn reflexes that now look smooth

and purposeful. Because the strength of reaction is somewhat blunted by gravity, the baby reflexes appear to aid neonatal locomotion leading to latching behaviors, self attachment and good milk transfer. (Colson et al., 2008). It is as if the position the mother sits in could transform breastfeeding from a method reliant upon skills into a relationship

To Learn More About PNRs

- [Stanford School of Medicine, Neuro/Reflexes](#)
- [Primitive Reflexes](#)

In BN, mothers neither sit bolt upright nor do they lie on their sides or backs. Instead, at the start of a feed, they lean back in semi-reclined postures, usually placing the baby on top of their bodies, so the entire frontal aspect of the baby's body is facing, touching, and closely applied to their body curves or to a part of the environment (Colson, 2005a, 2005b; Colson et al., 2008). The movement is in the pelvis and an understanding of pelvic anatomy underpins using BN. We formulated scientific definitions for the mother's feeding position based upon bony pelvic reliance and amount of back support.

The Role of the Bony Pelvis

Kapandji (1974), a French orthopedic surgeon, integrated and illustrated complex physiology and mechanical functioning of joints and muscles within the anatomical context. His explanations and illustrations, together with those from recent English midwifery textbooks, provide the basis for understanding the difference between upright and laid-back sitting postures.

¹ Akinsanya Scholar 2007, honorary senior lecturer at Canterbury Christ Church University and a co-founder of The Nurturing Project

Pelvic sitting support

When sitting upright or leaning slightly forward, the body mass is supported evenly by the two ischial tuberosities. In ischial sitting postures, for example, those used to drive a car, ride a bike or to work at the computer, the weight of the trunk sits firmly upon a solid base, either a chair, or a seat (Kapandji, 1974). Body weight is placed equally on both ischial tuberosities; the thighs are parallel to the floor and ideally, the seat height permits the feet to rest flat on the floor. The body leans forward from the hips when necessary but does not curve at shoulders or neck. Kapandji (1974, p. 112) calls this the “typist position,” characterizing it as fraught with potential for muscular fatigue and the most difficult body posture to sustain.

In contrast, when sitting laid-back, for example, sprawled on a chair or sofa while watching television, the back of the chair or sofa always supports the trunk. Bony pelvic reliance comprises the posterior surface of the sacrum and the coccyx with limited ischial support. Kapandji (1974, p. 112) terms this posture the “position of relaxation.” It is an in-between posture neither sitting bolt upright nor flat-lying. Kapandji states that this position can be achieved with the help of cushions or specially designed chairs, but our results show that mothers do not need any equipment to sit in this position. Figure 1 summarizes these differences comparing an adaptation of Kapandji’s “typist’s position” with his “position of relaxation.”

Figure 2 illustrates these postures in live mothers. The bottle-feeding mother on the left is ischial sitting, upright at 90°, as is the breastfeeding mother in the middle. On the right, the same breastfeeding mother has changed to sacral sitting and is semi-reclined at a 35° angle.

Maternal comfort mechanisms

All mothers experience a wide range of challenges to their personal comfort right after birth. The abrupt change in

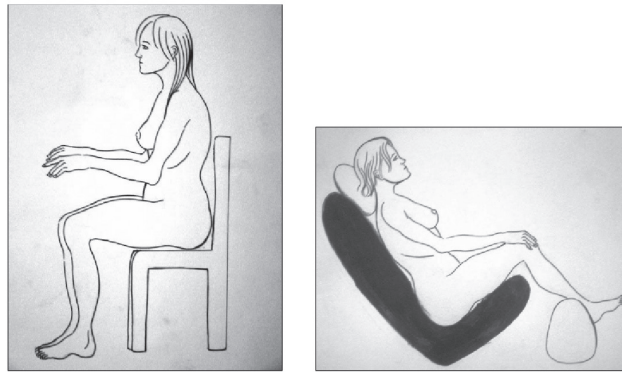


Figure 1. Contrast the typist’s position (ischial sitting) with the position of relaxation (sacral sitting).

body shape can be a real shock and sometimes body parts feel sensitive, ache or are sore. This can be compounded by abdominal pain if the mother has had a caesarean birth or perineal pain if she has had an episiotomy or an operative or assisted delivery. A mother may also have pain from sore nipples or engorgement, and some also complain of neck tension and shoulder pain. This may be because it is difficult to maintain the upright position for long periods of time (Kapandji, 1974).

Laid-back breastfeeding, by definition, means that every part of the mother’s body—importantly, her head, neck, shoulders, upper and lower back are relaxed. Mothers often say that as soon as they sit back, the shoulder and neck tension melt away. Nipple pain is often alleviated immediately and this may happen because gravity is not dragging the baby down the upright maternal midriff. Mothers also have increased freedom of movement as one or both hands are free; their bodies hold the baby not their arms. Figure 3 compares maternal body support in upright postures with BN postures. [\[see a video\]](#).

Does this mean that mothers should never initiate breastfeeding in upright postures? From a practical standpoint, no. Human mothers and babies are extremely versatile, able to breastfeed in many different



Figure 2. Contrast mothers sitting bolt upright (left and center photos) with the mother sitting semi-reclined (right photo).



Figure 3. Maternal body support from upright to BN postures

positions, and it would not be helpful to prescribe laid-back postures as the only way to initiate breastfeeding. Millions of mothers have obviously been able to breastfeed while sitting up. But there are some limitations to that approach. In our study, observations for the first episode demonstrated that 12 of the 27 breastfeeding mothers who sat upright latched their baby successfully onto the breast with good milk transfer. However, only a quarter of them (N=3) were pain-free; the other nine mothers modified their baby's positions, their own postures, or both in subsequent episodes to achieve an increase in comfort.

In contrast, the laid-back BN posture immediately changed things. It opened the mother's body which gave the baby more space to maneuver. Importantly, mothers' bodies were fully supported and they often had both hands free because they no longer needed to hold the baby applying pressure along the baby's back, head or neck; gravity helped keep the baby on the mother's body. In addition, when mothers initiate breastfeeding while sitting upright, they may be faced with more direct instruction and intervention than when they are left alone to quietly discover each other, as this mother describes.

Dear Suzanne,

My son was placed to my breast shortly after the 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 there and then 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 been successful for any length of time. I am certain that if my midwife had not been so natural and chilled out about this first feed, things would have been very different. I was moved to

the postnatal ward a few hours after the birth. It was horrendous. Nurses standing guard and scrutinizing 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 the birth 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 to say the least when a line up of 3 nurses stood in front of me watching me trying to force my baby to latch on. They said I couldn't go home until I could manage to feed him ok, but I so 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 simply being told that there are alternative ways to breastfeed! The hospital staff was obsessed with breastfeeding 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 given half a chance. I just needed someone to tell me this at the time! Thanks again [for explaining BN which] has given me so much reassurance and a lot more confidence about things. I hope I can pass this on to any new mums I come into contact with through my peer supporting role in the future.

Is BN Species-Specific?: Directions for Future Research

This initial research on the mechanisms of BN raises some interesting questions, such as could BN postures and positions be species specific? Human infants develop as quadrupeds; locomotion is first achieved through crawling. The human baby struggles to a semi-upright sitting posture from four to seven months of age, beginning to toddle erect when they are about a year old. Taken together these facts suggest a strong developmental argument: Our babies, like some of our quadruped mammalian cousins, would biologically commence life as abdominal or what I call frontal feeders. The human upright struggle against gravity is progressive suggesting that phylogenetically, our babies would be semi-upright to feed, supported by a gentle maternal body slope. If being human involves retracing our phylogenetic history, as Peiper (1963) suggests, then during the first year of life, BN laid-back maternal postures enabling full neonatal frontal feeding positions may be a species-specific positional choice, aiding breastfeeding initiation.

Conclusions

The results of our research have had an amazing impact upon my practice. If you are interested in applying BN in your practice, below are some guidelines that will help you do so. Please write and tell me about your experiences. [\[click here\]](#)

Clinical Applications I: Using BN to support a mother getting started with breastfeeding.

You may want to:

1. Explain that for her, a BN posture is one where her back touches and is supported by the back of the chair or sofa; her own comfort is the priority. Tell her there is not one "correct" breastfeeding position and she might like to try feeding her baby in the same positions she uses to watch television.
2. Explain that her body supports the baby, not her arms or pillows. However, pillows can sometimes help to support her own arms, upper back, head and or shoulders.
3. Share that mothers often sacrifice their own personal comfort for a good latch. This may increase fatigue and should be avoided. Tell her that an important part of your role is to check that every part of her body is supported.
4. Help her place the baby on top of her body in a position where every aspect of the baby's body can brush up against one of her body curves or a part of the environment, such as a blanket, bed clothes, or the bed or chair. This is particularly important for the baby's thighs, feet tops and soles.
5. Share that a baby often uses inborn reflexes to move into a position similar to the way he was lying in the womb. This point of continuity may be comforting to both mother and baby.

References

- Colson, S. (2005a). Maternal breastfeeding positions, have we got it right? (1). *The Practising Midwife*, 8, 10, 24-27.
- Colson, S. (2005b). Maternal breastfeeding positions, have we got it right? (2). *The Practising Midwife*, 8, 11, 29-32.
- Colson, S. (2010). *An introduction to biological nurturing: New angles on breastfeeding*. Amarillo, TX: Hale Publishing.
- Colson, S.D., Meek J.H., & Hawdon, J.M. (2008). Optimal positions for the release of primitive neonatal reflexes stimulating breastfeeding. *Early Human Development*, 84, 441-449. Available online at <http://linkinghub.elsevier.com/retrieve/pii/S0378378207002423>.

Clinical Applications II: Problems such as latch refusal, sore nipples & breast fullness.

You may want to:

1. Suggest that she does BN when the baby is in sleep states. This entails picking up the sleeping baby without waking him and laying him on top of mother's body in BN postures/position. We have not looked at the effects of behavioral state in this paper. However, it is well known that reflex actions can be released in sleep states and an entire chapter is devoted to this important subject in Colson (2010).
2. Use BN as a test for tongue tie before you separate baby and mother to make a physical assessment of the baby's mouth. Gravity always brings the tongue and chin forward during BN.

General Observations. Be aware that BN:

1. Is not a maternal flat-lying posture and the reasons for this are discussed in detail in Colson (2010).
2. Is usually carried out when mothers and babies are lightly dressed except for the first hours following birth.
3. Maternal postures open up a wide variety of baby positions. Like the hands of a clock, the baby can approach the breast from any angle. This means that the baby does not always lead in with the chin. Rather the entire trigeminal facial area may bob against the mother's breast. Attachment is not always asymmetrical.
4. Baby positions promote self attachment but not always. Sometimes the mother needs to help. During self-attachment, the baby's body is not always in a straight line.
5. Attachment can initially look like nipple sucking and as long as there is good milk transfer and there is no pain, this more superficial BN attachment works well.

- Kapandji, I.A. (1974). *The physiology of the joints*. Vol.3. *The trunk and the vertebral column* (2nd ed.). Edinburgh: Churchill Livingstone.
- Peiper, A. (1963). *Cerebral function in infancy and childhood* (3rd ed.) In B. Nagler & H. Nagler (Trans.). New York: Consultants Bureau.
- UNICEF UK Baby Friendly Initiative & the Health Promotion Agency for Northern Ireland. (2008). *Teaching breastfeeding skills* [videocassette]. The Health Promotion Agency for Northern Ireland 18 Omeau Avenue Belfast BT2 8HS cover available on line at http://www.healthpromotionagency.org.uk/Resources/breastfeeding/pdfs/Breastfeeding_DVD_Case.pdf