

# **Protocol #1**

## **The Initiation of Breastfeeding**



# Protocol #1: The Initiation of Breastfeeding

*“Place babies in uninterrupted skin-to-skin contact with their mothers immediately following birth for at least an hour or until completion of the first feeding or for as long as the mother wishes: encourage mothers to recognize when their babies are ready to feed, offering help as needed.”*

(BFI Step 4, BCC, 2011)

## Suggestions

### *Encourage the mother to:*

- Initiate breastfeeding immediately after birth. Place the baby skin-to-skin on her chest, uninterrupted, for at least an hour or until completion of the first breastfeeding, or for as long as the mother wishes. Most babies will breastfeed well immediately after birth, while some may only lick and smell the breast and may not necessarily actively suck in the early stages of breastfeeding, and some may lick and sniff later on. Most routine procedures can and should be delayed until after the first breastfeeding is completed.
- Remain together with the baby 24 hours a day at the hospital unless separation is medically indicated.
- Seek assistance to initiate breastfeeding and maintain lactation, particularly if the mother and baby are separated after birth. The mother should be encouraged to express her breasts frequently – at least 8 or more times in 24 hours beginning within 6 hours after birth (BFI Step 5, BCC, 2011) (*Protocol #19: Expressing and Storing Breast Milk*).
- Recognize when the baby is ready to breastfeed.
- Breastfeed when the baby is showing early feeding cues before the baby gets too hungry, is too eager to breastfeed, or is crying. Early feeding cues include:
  - Rapid eye movements under the eyelids.
  - Soft cooing or sighing sounds.
  - Sucking or licking movements.
  - Sucking sounds.
  - Restlessness.
  - Hand-to-mouth movements.

(Adapted from ILCA, 2005)

- Breastfeed according to the baby’s feeding readiness cues. Breastfeedings should be frequent and unrestricted, with no time schedule. In the first

month a baby should be awakened to breastfeed if there are signs of insufficient breastfeeding (i.e., less than 8 effective breastfeedings in 24 hours, or more than one 4–5 hour sleep period in 24 hours, and/or showing signs of inadequate urine/stool output or weight gain) (*Protocol #3: Signs of Effective Breastfeeding*).

- Breastfeed when the mother is calm and comfortable.
- Clothe the baby only in a diaper when breastfeeding to promote skin-to-skin contact.
- Allow the baby to lead the breastfeeding process, including when to breastfeed, latch, and when to finish the breastfeeding. The baby is supported and his trunk is stabilized so that he is able to follow his own reflexes and cues. The baby sets the timing and the pace; the process should not be rushed.
- Allow the baby to breastfeed on the first breast until the baby is no longer sucking and swallowing effectively (i.e., deep and slow sucks) (*Protocol #3: Signs of Effective Breastfeeding*). The second breast should be offered if the baby is interested. This may happen several times during a breastfeeding, when the baby is learning to breastfeed. Once breastfeeding and breast milk supply are established, the baby should be allowed to breastfeed fully from the first breast before changing breasts.
- Understand that during the first few days, breastfeedings may be short and frequent until the breast milk volume increases with the onset of Lactogenesis II. Babies should effectively suck and swallow until they are satisfied.
- Seek assistance to initiate breastfeeding and maintain lactation should the mother face challenges such as ‘separation from her baby’ (Step 5, BFHI). Support the mother to hand express if the baby is not removing breast milk from the breast



(Protocol #19: *Expressing and Storing Breast Milk*).

- Offer both breasts at each breastfeeding, as determined by the baby's interest.
- Avoid supplementation with other fluids or foods in the first 6 months of life, unless medically indicated (Protocol #17: *Indications for Supplementation or Cessation of Breastfeeding*).
- Discuss with her health care provider the Health Canada recommendation to give all breastfed healthy term babies a daily vitamin D supplement (10 µg or 400 IU), starting from birth and continuing until the breastfed baby reaches 1 year of age (Health Canada, 2011).
- Avoid using a soother or bottle. Support the mother in making an informed decision about the use of artificial nipples or pacifiers, and document her decision. If the mother decides to use these, she should be encouraged to wait until breastfeeding and sucking patterns are well established, usually at 4–6 weeks.
- Learn alternative ways to soothe and calm her baby.
- Use proper positioning and latching techniques (Protocol #2: *Positioning and Latching*).
- Watch for signs of effective breastfeeding (Protocol #3: *Signs of Effective Breastfeeding*).

## General Principles

- Initiation of breastfeeding immediately after birth is recommended.
- Place babies in uninterrupted skin-to-skin contact with their mothers immediately following birth for at least an hour or until completion of the first feeding or for as long as the mother wishes: encourage mothers to recognize when their babies are ready to breastfeed, offering help as needed.
- Routine procedures, monitoring and measurements are delayed until after the first breastfeeding is completed. (BFI Step 4, BCC, 2011).
- Most mothers will produce enough breast milk to exclusively breastfeed their baby for the first 6 months of life and continue to breastfeed for 2 years and beyond with the introduction of nutrient rich solid foods at 6 months paying particular attention to iron.
- Babies should be breastfed according to their early feeding cues. In the first month most babies need

to breastfeed well at least 8 times in 24 hours. This will ensure that the baby is getting enough breast milk while breastfeeding is being established and help the mother to build a healthy breast milk supply.

- Babies show feeding cues to signal their readiness to feed, as well as the timing and duration of feedings. Mothers are encouraged to recognize the signs that their babies are ready to feed (BFI Step 4, BCC, 2011).
- Babies breastfeed best when they are calm, before they are overly hungry, and before they reach a state of crying. Early feeding cues may be less obvious if the baby has challenges such as jaundice, illness, difficult delivery, etc.

### Early Feeding Cues include:

- Rapid eye movements, under the eyelids
- Sucking/licking movements
- Hand-to-mouth movements
- Sucking sounds
- Restlessness
- Soft cooing or sighing sounds

(Adapted from ILCA, 2005)

### Late Feeding Cues include:

- Crying
- Fussiness
- Exhaustion
- Falling asleep

(Adapted from Riordan, 2010)

(Protocol #2: *Positioning and Latching* and Protocol #3: *Signs of Effective Breastfeeding*).

## Skin-to-Skin

Mother-newborn contact is optimized by skin-to-skin practices or “kangaroo care” for premature babies. Placing the baby directly on the mother's abdomen and chest, skin-to-skin, boosts the baby's cardio-respiratory and thermoregulatory response and provides the mother with the optimum opportunity to become attuned to her baby's behaviour and cues. Skin-to-skin contact promotes colonization of the baby with maternal microbes, for which the baby is familiar and has compatible antibodies (Odent, 2002). Skin-to-skin contact has been demonstrated to result in a significant increase in breast milk volume (Hurst

et al., 1997). The most recent Cochrane Review (Moore et al., 2007) found statistically significant positive effects of early skin-to-skin contact on the success of first breastfeeding, breastfeeding status day 3 post-birth, breastfeeding 1-4 months post-birth, breastfeeding duration, maternal breast engorgement pain, anxiety state, and babies' recognition of their own mother's breast milk, as well as maintenance of infant thermoregulation, crying, blood glucose levels, and other physiological parameters. In addition, it found significant differences in summary scores of affection and touch and contact behaviour with skin-to-skin practice. There were no significant differences in weight gain, heart or breathing rates, hospital stay, or number of breastfeeding problems (Moore et al., 2007). As discussed by Louise Dumas (Dumas, 2011), the temperature reciprocity between mother and baby means that mothers do not overheat (Bergstrom et al., 2007), the baby's temperature is always within normal limits (Mori et al., 2009; Bystrova et al., 2008), cold babies rewarm better than in an incubator (Christensson et al., 1998), time until placental expulsion is decreased (Marin Gabriel et al., 2010), there is reduced pain reaction (Chermont et al., 2009; Weissman et al., 2009), energy is conserved, and babies are better able to self-regulate, showing less signs of stress after birth (Ferber et al., 2004).

- Avoid restricting babies' use of their hands by swaddling, holding the arms, or trapping them between the mother's breasts. It is instinctive for babies to deliberately use their hands to locate, move and shape the nipple area (Genna, 2010).
- Swaddling or bundling may restrict instinctive infant behaviours such as hand movements, as well as seeking and attaching behaviours. Swaddled babies sleep longer and arouse less (Franco et al., 2005), which may decrease breastfeeding frequency. This is particularly significant in the first few hours and days after birth.
- Assist mothers to be comfortable and stress-free to promote breast milk letdown (see *How the Breast Works*).

Babies should be allowed to breastfeed on the first breast until they are no longer sucking and swallowing effectively (i.e., deep and slow sucks) (*Protocol #3: Signs of Effective Breastfeeding*). Finish the first breast first (Renfrew et al., 2004). This will increase the amount of fat the baby receives since breast milk increases in fat content as the breast empties while feeding progresses (Cregan & Hartmann, 1999).

It is no longer recommended to routinely switch breasts after 5–10 minutes as this may decrease the baby's fat intake and result in more frequent breastfeeding (see *How the Breast Works*). The second breast should be offered when the baby shows interest. Let the baby's cues, not the clock, determine how much and how long to breastfeed.

It is not necessary to breastfeed equally from both breasts. The work of the Western Australia/Hartmann group has shown that storage capacity varies between breasts, and although this does not impact the 24-hour volume produced, it can impact the amount of breast milk available between breasts during a single feeding (Daly et al., 1993; Ramsay et al., 2005; Geddes, 2007). The baby's interest is a better indicator in determining how long and how much to breastfeed.

It may be difficult for mothers to recognize swallowing during the first few days until breast milk volume increases with the onset of Lactogenesis II (see *How the Breast Works*).

It may also be difficult for mothers to accept that this small volume of breast milk is the correct amount for the size of their newborn's stomach. Fetal gastric volume near term is tiny (10 ml); it is important to reinforce the message that stomach capacity is small and gastric emptying frequent in newborns. The cycle is about 40 minutes at 32–35 weeks gestation and lengthens to about 80 minutes at term (Sase et al., 2005). Santoro found that newborns ingested only  $15 \pm 11$  g of breast milk in the first 24 hours (Santoro et al., 2010).

Mothers should be supported in understanding the significance of frequent breastfeedings and breast milk removal during the first few days after birth, and their relationship to the establishment of breastfeeding. Babies need frequent small breastfeedings because of their small stomach size and rapid gastric emptying and feeding cycles. The breasts need frequent removal of small amounts of breast milk to promote Lactogenesis II (see *How the Breast Works*). Lack of breast stimulation by sucking or expression leads to a drop in the level of lactogenic hormones. If breast milk is not removed frequently, breast milk stasis will trigger changes at the cellular level that lead to breakdown of the lactocytes, changes in protein and breast milk composition and involution of the breast, thereby reversing Lactogenesis II or the production of breast milk (Hale et al., 2007).

Lactogenesis II may be delayed by a variety of factors that may lead to poor breast milk removal, such as mother-baby separation, traumatic birth, caesarean section, metabolic conditions in the mother or baby, eg., uncontrolled diabetes or thyroid disease, or psychological situations including stress or other mental health concerns. When Lactogenesis II is delayed, there may be delays in the appearance of the initial copious secretion of breast milk, mothers reporting feeling breast fullness, and changes in the baby's stooling frequency and colour until later in the first week, after 4 or 5 days (*Protocol #3: Signs of Effective Breastfeeding*). Although there may be normal variations between women, it is important to assess further whenever there seem to be signs of delay.

After Lactogenesis II, there is an ongoing feedback mechanism to inhibit breast milk release when there is poor breast milk removal at any stage of lactation. The Feedback Inhibitor of Lactation (FIL) is an autocrine control mechanism by a whey protein that regulates the secretion of breast milk if there is already breast milk accumulated in the alveoli (Lawrence, 2010). This may work together with other factors, including insufficient stimulation and/or insufficient breast milk removal, to trigger the Prolactin-Inhibiting Factor (PIF), as discussed in *How the Breast Works*.

Assist mothers to breastfeed and maintain lactation should they face challenges including separation from their babies (BFI Step 5, BCC, 2011). If the baby does not remove breast milk during the first breastfeeding, encourage the mother to use hand expression to remove the breast milk.

Hand expression may be more successful in the first few days after birth due to the viscous nature and small volume of the first breast milk (colostrum). It can be discouraging for a new mother to use an electric pump if the breast milk does not accumulate in the pump's reservoir. It can be more affirming for her to be able to remove her own breast milk by hand into a small container and offer it to the baby by cup or spoon. Some clinicians suggest that the mother offer a teaspoon or "paint" drops of expressed breast milk onto their baby's lips, where it will be absorbed and begin to trigger physiological responses in the newborn, as well as provide nourishment. It is important that pregnant women be taught the skill of hand expression. (*Protocol #19: Expressing and Storing Breast Milk*).

No extra fluids or foods are needed for a healthy breastfed baby in the first 6 months of life unless medically indicated (*Protocol #17: Indications for Supplementation or Cessation of Breastfeeding*).

Giving extra fluids or foods during this time will decrease the mother's breast milk supply as well as the baby's intake of breast milk.

Health Canada and the Canadian Paediatric Society recommend that all breastfed healthy term babies receive a daily vitamin D supplement of 10 µg (400 IU) starting from birth and continuing until the breastfed baby reaches 1 year of age (Health Canada, 2010).

- There is increasing interest in the importance of adequate intake of vitamin D. The amount of vitamin D in breast milk is dependent on maternal stores during pregnancy and lactation (Wagner et al., 2010). Based on the U.S. Institute of Medicine [IOM] report of the review of the Dietary Reference Intakes (DRIs) for vitamin D and calcium, Health Canada now recommends a daily intake of 600 IU (15mg) for pregnant and lactating women (Health Canada, 2010), ideally met through dietary intake.

Step 9 of the *Integrated Ten Steps of the Baby-Friendly Initiative* (BFI) recommends that mothers be supported to feed and care for their babies without teats or pacifiers (dummies or soothers) (BFI Step 9, BCC, 2011).

Babies need to learn the normal mechanics of sucking at the breast. This includes learning to manage the flow of breast milk from the breast. Feeding only at the breast helps to prevent the baby learning to suck improperly on the breast tissue, which may in turn lead to breast refusal or painful nipples. This "nipple confusion" has not been established in the medical literature (Lawrence, 2010) but there is strong evidence in the psychosomatic literature to support the "imprinting" of sucking behaviours.

**Imprinting** – The concept of imprinting or "stamping" is sometimes used to explain the incidence of nipple preference. Imprinting is drawn from other sciences such as biology and psychology, where it has been applied to explain attachment behaviours and brain pathway development. In humans, imprinting is oral/tactile (Lawrence, 2010, p. 202) and Gale Mobbs (1989) has identified the mouth as the most significant factor for imprinting in

humans. When babies are exposed to artificial nipples or fingers early they can become accustomed to the feeling of that particular object, e.g., bottle nipple, pacifier, finger, in their mouths and have difficulty accepting another object, such as the mother's nipple, in its place (Righard, 1997, p. 119).

- **Pacifier Use** – In recent years, there have been controversial and contradictory reports about the effects of pacifier use. The evidence had previously shown a strong association between the use of pacifiers and a shortened duration of breastfeeding (Kramer et al., 2001). However, a recent systematic review found that the highest level of evidence does not support an adverse relationship between pacifier use and breastfeeding exclusivity or duration (O'Connor et al., 2009). The Cochrane review concluded that for mothers who are “motivated” to breastfeed their babies, pacifier use before or after breastfeeding was established did not significantly affect the prevalence or duration of exclusive and

partial breastfeeding up to 4 months of age (Jaafar et al., 2011); the report does not, however, define ‘motivated’. As suggested by Howard et al. (2003), pacifier use may be a marker of breastfeeding difficulties or reduced intention to breastfeed. A mother may miss or override early feeding cues if a pacifier is used to delay or shorten breastfeedings. Pacifiers are also associated with an increased risk of otitis media (CPS, 2011; Duffy, 1997). If the mother decides to use artificial nipples and pacifiers, she should be encouraged to wait until breastfeeding and sucking patterns are well established, usually after a few (4–6) weeks (Righard, 1998). The Canadian Paediatric Society advises parents not to start using a pacifier until breastfeeding is fully established, and to talk to their doctor or lactation consultant if they feel their baby needs one at that early stage. CPS also advises an exception for premature or sick babies who may use a pacifier for comfort (CPS, 2007a).

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