

### Bottle-Feeding as a Tool to Reinforce Breastfeeding

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#### Abstract

Babies may need supplementation due to difficulty breastfeeding. Others must be fed by alternative feeding methods because they are separated from mothers who have returned to employment or school. Recognizing that mothers and caregivers are often not comfortable using other alternative feeding devices, the author endeavored to develop a method of bottle-feeding that would meet the needs of these mothers and their babies without causing suck confusion. The resulting bottle-feeding method requires babies to expend effort and use their oral anatomy in ways very similar to breastfeeding. *J Hum Lact.* 18(1):56-60.

**Keywords:** breastfeeding, bottle-feeding, alternative feeding devices, dysfunctional suck, supplementation

For years, I received frequent counseling calls from employed mothers whose babies had been receiving bottles from their caregivers and now were refusing to breastfeed. The babies had become accustomed to the ease of feeding from a bottle and were refusing to work for their dinner at mother's breast. Many U.S. caregivers prefer bottles over all other alternative feeding devices. It was imperative, therefore, to make bottle-feeding require effort similar to breastfeeding, so that babies would not mind switching back and forth.

Most people are reared to recognize two ways to feed a baby: breast or bottle. When I worked with women whose babies were not breastfeeding well, I noticed that many of these mothers would give up and turn to bottle-feeding with artificial baby milk rather than attempt to use other alternative feeding devices. When new mothers are exhausted and overwhelmed with a baby who is not eating well, they may view an alternative feeding

device as something that will require effort on their part to learn to use it with the baby. These mothers may feel they do not have the energy (emotional or physical) to learn how to use something new. Although a few mothers were quite adamant about not using a bottle, many of the mothers I worked with viewed the suggestion to use an alternative feeding device as the last straw. Rather than use an alternative feeding device, they would choose to stop breastfeeding. I needed to find a way for these mothers to supplement when necessary, using *their* preferred feeding method.

I have been able to develop a style of bottle-feeding that seems to meet the requirements of these at-risk mothers. The method theoretically requires a similar amount of effort from the babies as breastfeeding does. I demonstrate the method to all mothers who come to my office to obtain a breast pump before they go back to work. Because the method requires the baby to use his oral anatomy in a manner very similar to breastfeeding, I also use this method to teach many suck-confused babies how to breastfeed.

There has been much discussion among breastfeeding support workers and in the literature concerning nipple confusion and its definition.<sup>1</sup> Some babies initially breastfeed well but then show difficulty after receiving a bottle or pacifier. Other newborns are unable to breastfeed correctly even though they have had no exposure to

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Received for review, September 5, 2000; revised manuscript accepted for publication, October 22, 2001.

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*J Hum Lact* 18(1), 2002

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an artificial nipple. Both these categories of babies need to learn to breastfeed correctly, and both may need supplementation. For purposes of this article, both groups are referred to as “suck confused.” I prefer this method of bottle-feeding for supplementation versus cup-, spoon-, and syringe-feeding. Although these feeding methods do not cause suck confusion, they also do not teach the baby what he needs to be doing at the breast. I have not seen this method of bottle-feeding cause any confusion in any of the babies I have worked with. I do try to be sure that the baby has always had an opportunity to breastfeed before any attempt is made to bottle-feed. It is important that the baby’s first opportunity to suck be at the breast whenever possible.

I suggest this method to employed mothers and to mothers whose babies are feeding poorly or sucking incorrectly, after a change in positioning or latch-on does not solve the problem. For mothers with delayed or insufficient milk supply and adoptive mothers whose babies know how to suck correctly, but need supplementation, I suggest the choice of this style of bottle-feeding or the use of a Supplemental Nursing System or Lact-Aid. For babies who have lost a large percentage of birth weight and are too weak to complete a feeding, I suggest a feeding or two with an eyedropper or syringe. If supplementation is still necessary when the baby is stronger and has more energy, I then suggest switching to the bottle-feeding method. I am currently working on a modified version of this method for premature infants, based on the suggestions of several nurses who work in special care nurseries.

### The Method

The following serves as an overview of the bottle-feeding method I have developed, along with my rationale for each part of the process.

- Use a straight bottle rather than a bent bottle (Figure 1). Milk that is up in the higher, bent part of the bottle has gravity pulling on it. When baby compresses the nipple with his jaws, he opens the hole(s) in the nipple and the force of gravity can then help the milk out of the bottle. This can lessen the baby’s effort and can also encourage baby to chew rather than suck. This problem is avoided by using a straight bottle.
- Use a reusable bottle rather than a disposable bag system. It is important to fill the baby’s mouth in a manner similar to breastfeeding. The nipples for



**Figure 1.** Preferred style of nipple and bottle for Kassing Method of bottle-feeding.

disposable feeding systems have very large bases that the baby cannot get his mouth around. The baby is then forced to make a tight mouth around the narrow shaft of the nipple. The base of nipples for reusable bottles (Figure 1) is narrow enough that the baby can get the entire nipple in his mouth. This forces baby to keep his jaws open when he makes a seal around the base of the nipple, which is very similar to how he holds his mouth for breastfeeding.

The end of the nipple is much farther back in a baby’s mouth when the entire nipple of a reusable bottle is in his mouth than when the baby is allowed to feed on just the shaft of the nipple. The baby is reminded that something is always supposed to be in the back of his mouth when he is eating. A baby who is breastfeeding properly will pull mother’s nipple back to the juncture of the hard and soft palate (the S-spot<sup>2</sup>). This may help to stimulate the baby’s sucking reflex. Noble and Bovey<sup>3</sup> feel that an artificial nipple must ideally be long enough to reach this juncture. However, there are currently no nipples this long available where I work, and I have not found this length to be necessary if the entire nipple can be inserted into the baby’s mouth.

- Use a round nipple (Figure 1). Weber et al’s<sup>4</sup> and Woolridge’s<sup>5,6</sup> ultrasound studies showed how babies use the structures of the face and mouth to achieve the suck used during breastfeeding. Ultrasound work by Nowak et al<sup>7</sup> studied babies sucking on artificial nipples with an old-fashioned round shape and with an “orthodontic” shape. These studies indicated that the suck elic-

ited by an old-fashioned round nipple is closer to a breastfeeding suck.

- Use a slow-flow nipple. Regular-flow nipples flow very easily, even when the bottle is held in a horizontal position. A slow-flow nipple requires the baby to put forth effort very similar to breastfeeding to get milk from the bottle. Low-tone babies may not have the stamina necessary to finish a feeding with a slow-flow nipple. For these babies, I recommend using a medium-flow nipple (a few brands available in my area offer this option) until they have developed the strength and stamina to use the slow-flow nipple. I explain to mothers that ideally, a bottle-feeding should require about 20 minutes, which is approximately similar to the time spent breastfeeding when all is going well: 10 minutes per breast. If the baby can finish a full bottle-feeding (as opposed to a partial supplementation after time at the breast) in 5 to 10 minutes, the flow is too fast. If it consistently takes the baby 30 to 45 minutes to finish a full bottle-feeding (not counting the first or second attempt when he might still be learning the new technique), the flow is too slow for his abilities at that time.
- Try to use a soft nipple when possible. The silicone nipples available in my area seem to be softer than latex nipples. Palmer<sup>8</sup> noted that placing anything firmer than the breast in a baby's mouth may cause distortion of the palate. Using a softer nipple will hopefully do less damage. It is important to remember, however, that if the mother gives up on breastfeeding and decides to use bottles full-time because the baby could not learn how to breastfeed appropriately or because the mother felt that other methods of supplementing were too difficult to learn, the type of nipple used will become a moot point.
- Position the baby so that he is sitting upright. The mother or caregiver can use one hand to support the baby's head and neck. Hold the bottle horizontally (Figure 2). This position removes gravity from the feeding picture. Without gravity helping to pour food into the baby's mouth, baby will have to work harder for his meal. I caution against the mother and/or caregiver using an arm or the crook of an elbow to cuddle the baby's neck, because babies always seem to end up leaning back a bit when they are cuddled for feeding.



**Figure 2.** Father using Kassing Method of bottle-feeding to feed his baby who needs supplementation.

- Gently brush the nipple down over the midline of baby's lips, particularly the lower lip. This will help the baby to open wide, like a yawn. Then pop the entire nipple into the baby's mouth. Although an artificial nipple can be pushed into baby's mouth even if he only opens a little bit, mother cannot do that with her nipple. It is important to keep bottle-feeding as close to breastfeeding as possible. Once the nipple is entirely in baby's mouth, tip up the bottom of the bottle just enough so that there is no air in the nipple. Toward the end of the feeding, when the bottle will need to be almost vertical to keep air out of the nipple, it is important not to hyperextend baby's chin and neck. During swallowing, the larynx lifts to seal the trachea. When the head and neck are hyperextended, the larynx may be unable to lift far enough to completely close off the trachea. This could cause the baby to aspirate.<sup>9</sup> Instead, toward the end of the feeding, lean the baby's body back approximately 45 degrees so that his head and neck stay in proper alignment.

Artificial nipples are more rigid than mother's nipple, so the baby cannot push an artificial nipple around as easily. This rigidity is useful when dealing with a baby who is making his mother's nipples very sore because he is pushing the nipple to the front of the mouth while breastfeeding. Because the artificial nipple is more rigid, when the entire nipple is in the baby's mouth, the

baby has little choice but to put his tongue down and forward in his mouth, which is where it should be. Because the baby is sitting up for the feeding, he also does not have to fight gravity to put his tongue forward in his mouth.

A baby who has lost the ability to tolerate touch on the back of the hard palate because he has been pushing the nipple to the front of the mouth may gag when anything is gently pushed farther back in the mouth. For these babies, I have found that a compromise position of the artificial nipple works well. First, insert the nipple just far enough so that baby's lips flange out where the base of the nipple just begins to flare out from the shaft. Every few minutes, as the baby becomes comfortable with the nipple at that place, gently twist and push the nipple just a tiny bit farther into baby's mouth. If the baby gags, pull the nipple back to a place the baby can tolerate. Slowly and gently, work the nipple farther into his mouth again. Depending on the severity of the baby's problem, it may take a few feedings or a few days to desensitize the baby's exaggerated gag. Gradually, the baby again becomes accustomed to having something in the back of his mouth while he eats and is then often able to draw mother's nipple back appropriately when he breastfeeds. Although babies may gag if they have lost the ability to tolerate touch on the hard palate, gagging can also be the body's protective mechanism for babies who have swallowing disorders. A gag can propel food or fluid back out of the mouth, thereby preventing aspiration. If a baby gags frequently during feedings and the problem does not improve, encourage the mother to talk to the pediatrician about a referral to a specialist in feeding disorders for further evaluation.

When babies are fed using this method of bottle-feeding, they will use the same deep, jaw-dropping sucks they use for breastfeeding. A baby who is bottle-fed using this method does not have milk dripping via gravity into his mouth and is not forced to try to swallow and breathe at the same time. This method of bottle-feeding puts babies in control of their feeding, much as they are when breastfeeding. Babies who are bottle-fed this way do not need to be burped (winded) frequently during the feeding. They can usually finish the entire feeding, as they do the entire breast, before they are burped, and they remain comfortable. Because they are in control of the feeding, they are more likely to quit sucking when they are full and should not become overfed. Usually either no milk or just a trickle of milk, rather than a puddle, will accompany the burp after feeding.

Putting the baby in control of the speed and length of the feeding affects the amount of supplement offered. When babies are not gaining weight well due to incorrect breastfeeding, they often must be supplemented until they learn the proper feeding technique and/or mother's milk supply is increased to the appropriate level. The question is always how much supplement to give the baby. Although it is possible to estimate how much the baby should take at a feeding, it is not always possible to determine how much breast milk the baby is actually consuming at the breast before the supplement is given (not all mothers have the financial means to rent, or have access to, electronic baby scales), nor is it possible to determine the true caloric needs of the baby based on his own personal activity level and metabolic rate. When a baby is put in control of the feeding and allowed to take as much as he needs, there is less chance the baby will be underfed or overfed supplement. I always remind mothers to observe the baby's diaper count, so that if the baby does not eat enough, we will notice it. I have worked with a very few babies who do not seem to have a natural signal that they are full; these infants continue eating whatever they are offered. These babies often spit up the excess they consume, so their mothers quickly learn to moderate the baby's intake. Among most of the babies I have worked with, as baby takes more and more from the breast, he naturally takes less and less supplement when it is offered this way. This makes it easier for all concerned to see when breastfeeding is improving and when supplement can be safely discontinued.

### **Summary**

I have been teaching mothers and lactation support workers this method of bottle-feeding for several years now. I find that it helps suck-confused babies learn to breastfeed more quickly than cup-, spoon-, or syringe-feeding. Although these feeding methods do not further confuse a baby, they also do not teach a baby the right way to eat. I see much better compliance on the part of mothers who are working through breastfeeding difficulties when using this method of bottle-feeding than I did when I only suggested other alternative feeding methods. Mothers seem less overwhelmed when they can use a familiar item to offer supplement to their babies. I believe when they are held upright and their bottle is horizontal and equipped with a round, slow-flow nipple that is inserted all the way into their

mouths, babies are able to successfully use the feeding techniques they learn through this method as they transition to feeding at the breast.

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### Resumen

Los bebés pueden necesitar suplementación debido a dificultades durante la lactancia materna. Otros necesitan métodos de alimentación alternativos debido a que tienen que estar separados de sus madres que han vuelto al empleo o escuela. Reconociendo que las madres o las personas a cargo de los bebés no tienen la confianza de usar otros métodos o utensilios, el autor de este artículo desarrolló un método de alimentación con biberón para satisfacer las necesidades de estas madres y bebés sin ocasionar confusión de succión. Los resultados demostraron que el método de alimentación con biberón requiere que los bebés desarrollen habilidades y uso de la anatomía oral de manera similar a la lactancia materna.