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THE EFFECTS OF AN OVERABUNDANT MILK SUPPLY AND A FORCEFUL LET-DOWN REFLEX

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PURPOSE

This article explores the continuing difficulty some mothers experience when their abundant milk supply consistently provides more milk than the baby can manage either in quantity, or in force and speed of delivery, or both. Many of the suggestions could also relate to the rare situation where a mother has an average milk supply but still complains of a forceful let-down. The characteristic elements of an *overabundant milk supply* and the infant's reactions to *the subsequent forceful let-down (milk ejection) reflex*¹ are identified, starting with the newborn through the infant's first year of life. The initial suggestions in this article relate to the situation in which a baby is healthy and gaining weight at an average or above average rate.

Many of the suggestions presented in this article are based upon observations of those working with mothers and babies experiencing such difficulties. As much as possible, the authors cite evidence-based research to validate the suggestions, but further studies are needed to evaluate other suggestions based upon anecdotal experience, or to explore the underlying physiological explanations.

Although *an overabundant milk supply and a forceful let-down reflex* may have a continuing influence on the mother and her infant throughout their nursing relationship, the breastfeeding experiences of the mother and her baby will vary throughout the first year. For each stage, this article includes a description of the situation as viewed by the mother, symptoms and identification of the problem, and suggested management strategies. The lactation consultant whose client is experiencing the results of a forceful let-down reflex and an overabundant milk supply can use these suggestions to help the mother prevent a negative breastfeeding experience and an unnecessary, untimely weaning.

KEY PERSPECTIVES FROM THE LITERATURE

Different descriptions of the problem

Since the early 1980s, many articles have described the situation where a breastfeeding baby is exhibiting difficulties coping with milk coming rapidly from the breast. Some of the descriptors refer to the quantity of breast milk, as in the terms “overabundant milk supply” (Ryan 1990), “hyperlactation syndrome” (Livingstone 1996), “oversupply syndrome” (Woolridge and Fisher

¹ *Let-down reflex, also known as the milk ejection reflex*, is the term commonly used to refer to the reflex initiated by suckling, which triggers the pituitary gland to release oxytocin into the blood stream. This causes the myoepithelial cells to contract and eject the milk from the alveoli and collecting ductules down the ducts and through the multiple pores of the nipple. (Lawrence and Lawrence 1999, Mohrbacher and Stock 2003).

1988; “embarrassment of riches” (Riordan and Auerbach 1999), “too much milk” (Burick 1988), and “too much of a good thing” (Martens 1991 conference proceedings; Livingstone 1996; Weatherly 1999). Other descriptors are attempts at physiological explanations, such as “effects of an overactive let-down” (Andrusiak and Larose-Kuzenko 1987), “hyperactive let-down reflex (Lawrence and Lawrence 1999:515), a “fire hydrant” milk ejection reflex (Vickers 1995), and “foremilk-hindmilk imbalance” (Woolridge and Fisher 1988; Mohrbacher and Stock 2003: 119). Like the proverbial blind men who were describing an elephant by describing its different parts, this condition may be described differently depending upon perspective. Nevertheless, adding the parts together may result in information that has proven helpful to mothers and babies experiencing the symptoms of an overabundant milk supply and a forceful let-down reflex.

Breast usage, physiology, and its relationship to breast milk composition and volume

Woolridge and Fisher (1988) wrote a landmark article introducing the theoretical description of what was later termed, “foremilk/hindmilk imbalance” (Mohrbacher and Stock 2003: 37). If an infant is forced to switch breasts prematurely during a feed, this will result in maximizing the milk volumes but lowering the fat concentration of the milk, since the baby is not effectively draining either breast. The maximal volumes may, in turn, lead to a forceful let-down reflex. The low-fat, high-volume milk feeds may furthermore result in rapid gastric emptying, and a high lactose load being presented to the jejunum and ileum in the bowel. Since lactose is digested by the brush border intestinal enzyme, lactase, this in turn could result in greater amounts of lactose than the lactase can digest, and increased fermentation in the gut. In addition, undigested lactose draws water, osmotically, into the gut, causing swelling and pain. Resultant infant problems could include colic, increased flatulence, less availability of fat-soluble vitamins, and greenish, explosive watery stools which are acidic. This overconsumption of breast milk may result in rapid weight gain at the beginning, but may eventually lead to slow weight gain from increasingly low fat feeds or from baby’s aversion to breastfeeding.

The production of breastmilk follows a normal distribution in that a small proportion of women would produce extremely large volumes of milk (Daly and Hartmann 1995). Thus there are some women whose babies exhibit difficulties suggesting an overabundance of milk apart from the classic greenish watery stools resulting from foremilk-hindmilk imbalance. Rather, these babies have normal yellowish or brownish pasty or curd-like stools, often in profusion. Similar suggestions as found in this paper will also assist these women in alleviating problems resulting from their overabundant milk supply and subsequent forceful let-down reflex.

Breast usage will also be a prime factor in determining the volume of breastmilk produced. An observational study (Woolridge and Fisher, 1988) of 14 colicky, slow gaining infants found that 11 had partial or complete resolution of colic and low weight gain when the mothers were given the information to allow the infant to finish suckling from the first breast before offering the second breast if the infant still showed signs of hunger, and to understand that many infants only take milk from one breast per feed all or part of the time.

Another study randomized 12 four-week old infants (Woolridge, Ingram and Baum 1990) to feed the infant on either one breast per feed or two breasts per feed for one week, switching to the alternate regime for the second week. There were no differences in the frequency, length per feed, or total feeding time by regime. However, there were differences in the mean emptying index of the breast (the breast was 66% “emptied” in the one-breast regime, 40% in the two-breast), milk volume intake (713.3 ml/24 hours in one-breast; 782.1 ml/24 hours in two-breast, $p < 0.001$) and fat concentration of the milk (52.7 g/l for one-breast feeds; 44.3 g/l for two-breast, $p < 0.02$). These babies were able to achieve stable total fat intakes despite the different patterns

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forced upon them. But a forced two-breast regime for a mother-baby pair that has the potential to go on to develop problems, with oversupply could be a risk factor for incomplete breast emptying, forceful let-down reflex, plugged ducts and/or mastitis (Vogel 1999; Livingstone 1996).

Various studies throughout the world point to the importance of baby-led feeding patterns for appropriate milk composition and volume. Breast milk fat concentrations are influenced by Circadian variation, individual variance between women, and feeding patterns (Jackson et al, 1988; Lawrence and Lawrence 1999:108; Pao et al 1980). Infants will attempt to self-regulate their milk intake depending upon their caloric needs and the composition of the milk available (Daly, Owens and Hartmann 1993; Woolridge, Ingram and Baum 1990). There is also worldwide variation in breast usage. Studies noting the proportion of women breastfeeding their infants solely using one breast per feed have found huge international differences from 17% in England (Drewett and Woolridge, 1981) to 37% in Australia (Evans et al., 1995) to 56% in Thailand (Jackson et al., 1988). Moreover, the research in Thailand found that no matter what the variation in breast usage patterns of women during the day and night, 80% of the feeds given to the infants were one-breast feeds. The large variation in feeding patterns throughout the world is likely partially due to cultural influences, and possibly differing expectations of what is considered normal or appropriate.

Cregan and Hartmann (1999) have clearly shown, in computerized breast measurement studies, that fat content of the milk increases more steeply with increasing milk removal. “The rise in the fat content of milk from the beginning to the end of a breastfeed is determined primarily by the degree of fullness of the breast.” In the case of an oversupply of milk, the baby may consistently be dealing with an overly full breast that he cannot effectively drain, and thus feeds that have less fat than desirable, as will be explained below. In addition, Cregan and Hartmann have shown that the size of the breast plays a role in feeding patterns in that a larger breast has a greater storage capacity for milk, thus giving mother and baby more flexibility with length of time between feeds without compromising the quantity of milk production. This could possibly attenuate the effect of the large supply on the force of the let-down, since there is more space within which to store milk between feeds and thus less pressure in the breast at the time of let-down. The smaller breasted woman with an oversupply of milk may have a stronger, more forceful let-down due to the build-up of pressure within a small space.

Women who are on the high end of the milk production curve may also have babies that experience foremilk/hindmilk imbalance, even if they do not arbitrarily switch their babies to the second side during a feed. When the volume of milk production exceeds the need of the baby, the baby may simply get full before she can drain one breast sufficiently to access the fattier milk at the end. Thus, even with what would seem to be good management of an abundant supply (i.e. feeding on baby’s cue, not switching sides and giving only one breast per feed), the baby is still getting high volume, low-fat feeds with all the difficulties described above.

Since the milk in a full breast has less fat than the milk in a less-full breast, it seems that the fat content of a feed plays a role in the comfort of the baby later (Cregan and Hartmann 1999). It may be that the natural variation in milk fat content from one individual mother to another may be an additional confounding factor; the baby of a mother that naturally produces a lower-fat milk may have more problems with an abundant supply than that of the mother who naturally produces a high-fat milk. Much more research is needed in this area; in the meantime, we rely on clinical observation, trial and error, and common sense.

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The overall conclusion of these experiments and hypotheses is to encourage cue-based feeding patterns for the healthy, full-term newborn. Only the baby knows what is needed, since there is great variation between women, and within one woman at different times, as to the fat concentration and volume of her milk (Daly and Hartmann 1995). The mother may well need assistance from the LC to read the baby's cues, which go beyond behaviour at the breast and include over-all behaviour, stooling quality and patterns, spitting up, evidence of distress, etc. Indeed, the cues of the mother's own body also needs to be taken into account. The mother will need to have an understanding of the meaning of all these cues such that she can make ongoing, flexible, feeding decisions that support her and her baby's physiology. Following her own and her infant's cues may result in feeds at both breasts, one breast per feed, several feeds on one breast before switching sides, or a combination of feeding patterns, depending on the needs of the infant at any given point in time.

A guiding principle for breastfeeding

According to Bocar and Moore (1987), LLLI Lactation Consultant Series #16, women in one of the initial stages of parenting called the formal acquisition stage) may view their early role of childcare as that of following formalized expectations. Mothers may look upon breastfeeding as a task, which must conform to the "instruction manual" or to verbal directives. Suggestions from books, health care providers or friends may be explicitly followed by a new mother. For example, the *Womanly Art of Breastfeeding* (1997:57) states, "most mothers find it best to offer both breasts to the baby at each feeding in the early days. The baby's sucking stimulates milk production and offering both breasts at each feeding will help keep the breasts from becoming overfull." Although this statement is very non-directive and meant as a "most of the time" guideline, it will be read differently by women in the early stages of parenting. The mother will conform to an expected pattern of breastfeeding from both sides per feed. This could lead to problems if the pattern is inappropriate for her baby. A mother in the formal acquisition stage may find it difficult to follow her baby's cues if she finds them counter to her formalized expectations.

Giving women different 'rules' in the early days could lead to formal rule adherence rather than cue-led breastfeeding. But giving women one *guiding principle* from the beginning of breastfeeding may prove to be a valuable tool in helping a mother cue in to her full-term healthy baby's ever-changing needs. From the very first feeds, the LC needs to reinforce a guideline that allows all babies to find their preferred feeding pattern: Keep the baby feeding from the first breast until the baby is finished before switching breasts. In "short-hand" form, "*finish the first breast first,*" and once the baby has spontaneously come off the breast in a satisfied manner, then offer the second breast. *Do not force baby to feed on the second breast if the baby seems satiated.* (Woolridge and Fisher 1988)

Appropriate milk supplies are established if babies and mothers determine the best physiological pattern for them, whether that is breastfeeding on one side, two sides or fluctuating between those. Fears of babies not stimulating early milk supplies, or not feeding enough to prevent engorgement, may be unfounded – one study found the opposite. In this Australian study, there was actually a *lower* incidence of engorgement and colic in infant/mother pairs who were not necessarily forced to use the second breast for each feed in the early days. Evans et al (1995) assigned 302 women to two groups during their hospital birthing. The control group fed from both breasts per feed, to obtain about equal drainage of each. The intervention group fed at the first breast until finished, and if deemed necessary by the baby, continued the feed from the second breast. Mothers in the intervention group experienced a significantly lower incidence of breast engorgement in the first week (61% versus 74%, $p < 0.05$) and no difference in the

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incidence of mastitis. Babies in this group were also half as likely to experience colic within the six-month postpartum period (12% versus 23%, $p < 0.05$).

If the baby is feeding well in the hours and days after the birth, and is not struggling to overcome the effects of labour/birth drugs, separation, or other physical or physiological challenges, following the guiding principle of allowing baby to finish the first breast first would seem to be a reasonable approach. If the infant is struggling, the LC will need to work with the mother and baby to improve milk transfer, either by hand expressing colostrum to feed by spoon or cup and/or employing breast compressions to improve transfer at the breast and to ensure that baby is effectively supported to “finish the breast.”

EARLY EXPERIENCES

Since some of the newborn’s difficulties may start with routines during early breastfeeding, basic management techniques are an important feature of avoiding future problems with overabundant milk and a forceful let-down reflex. Early on, a mother’s normal process of creating an ongoing milk supply for her baby may be enhanced by good management or harmed by early mismanagement. A birth experience which does not interfere with initial suckling (Dewey and Lonnerdal 1986; Righard and Alade 1992), encourages close proximity between mother and baby to facilitate frequent suckling (de Carvalho et al. 1983), encourages attention by the mother to the feeding cues of the infant (Daly 1993), and promotes good positioning and latching to enable adequate milk transfer (Minchin 1986; Righarde and Alade 1992), creates the environment needed for a thriving breastfeeding situation.

LCs should pay particular attention to the type of instruction given and to the teaching of varying “norms” of breast usage. The LC needs to suggest a guideline of “finish the first breast first, and once the baby has spontaneously come off the breast in a satisfied manner, then offer the second breast. Do not force baby to feed on the second breast if the baby seems satiated.” The LC can also assure women that following baby’s cues results in less engorgement in the first week, as well as fewer reports of infant colic in the first six months (Evans et al 1995).

In situations where a mother needs to pump to obtain breast milk for her infant in the early days, it is also important for the health care provider to provide the woman with good information as to the amounts of breast milk to expect at different times postpartum. Many women are prone to over-pump, due to overestimating milk volumes required by the breastfeeding infant. Over-pumping has anecdotally been implicated with creating an overabundance of milk and a forceful let-down reflex when the infant is finally able to breastfeed. This may be due, in part, to inducing a capacity to overproduce based upon the hypothesis that the degree to which prolactin receptors are activated in the early postpartum period will influence the milk volume production throughout the breastfeeding experience (DeCarvalho 1983, Daly 1993). Activation of prolactin receptors is essential to establishing a good foundation for ongoing milk production; appropriate activation may be achieved even when pumping if the mother pumps to match baby’s needs, rather than to fill the freezer. Since the control of milk production very quickly switches over from endocrine (dependent on prolactin levels) to autocrine (dependent on breast emptying), the frequency and duration of pumping may be balanced with the mother’s ability to produce milk.

THE STAGES OF DIFFICULTIES ASSOCIATED WITH AN OVERABUNDANT MILK SUPPLY AND A FORCEFUL LET-DOWN REFLEX

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Many LCs have worked with women whose abundance of milk and fast let-down reflex was thought to be *temporarily* greater than their infants could manage. Usually the mother is encouraged to consider the positive meaning of a copious early milk supply, and assured that the oversupply will resolve itself as the baby and the mother adjust to the infant's suckling pattern and frequency (Righard et al 1993). However, if inappropriate breastfeeding patterns go unnoticed by health care providers offering this assurance, the situation frequently becomes progressively more difficult for the mother and infant.

Problems encountered with an overabundant milk supply and forceful let-down reflex have been divided into stages: the early period (up to about three months of age); the intermediate period (three to six months of age); and the long-term picture (six months and beyond). *The ages are guidelines only* – of greater importance is the actual description of what is happening to the breastfeeding mother and baby at each stage.

For purposes of this paper, we will henceforth refer to the early period (usually occurring within the first three months) as “Stage I”, and the intermediate period (usually occurring within months three to six) as “Stage II.” For each of the stages, the situation will be described from the viewpoint of the mother, from the symptoms identifiable by an LC, and from the perspective of an LC offering suggestions to the mother.

STAGE I: THE EARLY PERIOD (USUALLY THE FIRST THREE MONTHS)

The situation as the mother sees it

A mother's description of an overabundant milk supply and forceful let-down reflex in Stage I may be misleading, since the mother sometimes misreads the symptoms as not enough milk, or as something ‘wrong’ with her milk. The LC needs to be alert to such statements and questions as:

- *"My baby is colicky."*
- *"I don't think I have enough milk – my baby always wants to feed."*
- *"My baby is allergic to my milk."*
- *"My milk is not rich enough."*
- *"Can what I eat upset my baby?"*
- *"How can I freeze my extra milk?"*
- *"I want to know how to donate milk."*

Other statements mothers may use:

- *"My baby never falls asleep at the breast."*
- *"My baby won't be comforted at the breast."*
- *"My baby is fussy."*
- *"My baby spits up frequently and sometimes vomits large quantities."*
- *"My baby's bowel movements are green and watery" or "green and stringy" or "foamy."*
- *"My baby has diarrhea."*
- *"My baby is very gassy."*
- *"I'm always leaking."*
- *"I have another plugged duct!"*
- *"What can I do to prevent breast infections?"*

Symptoms of the infant and the mother

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In Stage I, occurring from birth to about three months, a mother's overabundant milk supply and forceful let-down reflex may result in a variety of symptoms. Usually, both mother and baby enjoyed a positive initiation of breastfeeding.

The LC needs to be aware that not all of the symptoms described below will occur in every situation. However, when a situation is associated with abundance of milk and a forceful let-down reflex, the mother and baby will exhibit most of the identifying symptoms.

Symptoms and behaviors of the infant:

- A noticeably strong suck, and appears to breastfeed hurriedly.
- Baby gulps, chokes, sputters, and swallows loudly when the let-down reflex occurs. The mother may identify a sound that is suggestive of milk hitting the bottom of the baby's stomach.
- At the strongest phase of the let-down reflex baby arches and pulls off the breast, periodically breaks suction, or improperly latches.
- Despite a recent breastfeed, wakes up soon after falling asleep as if very hungry.
- Baby "colicky", often crying for long periods, but sometimes calmed at least temporarily by breastfeeding.
- Baby has frequent, very wet diapers (6 to 8 wet cloth diapers, or 3-5 disposable diapers, in 24 hours)
- Frequent bowel movements that are mucousy, watery, green and may contain curds of undigested milk, OR profuse bowel movements of normal color and consistency.
- Good, sometimes rapid weight gain, at the high end or exceeding the expected 4 – 8 ounces per week, average 6 oz per week.
- Baby is alert, active, and developing well.
- Baby has strong muscle tone, supporting his weight on his legs and holding his head steady at a few weeks of age.

Additional indicators:

- Baby breastfeeds frequently and invites or even demands to be fed while being carried, rocked, or bounced.
- Baby is sensitive to over-stimulation such as loud noises or handling by persons other than the mother.
- Baby is especially hungry at times, rooting for the nipple and coming to the breast frantically. At such times, the baby may squirm and fuss at the breast, leading the mother to believe that she has lost her milk.
- Alternatively, the frantic need to suckle, but fussing and turning away when offered the breast may lead the mother to believe that the baby does not want her milk or that there is something wrong with her milk
- Feeds may be short, sometimes as short as 2-3 minutes.
- Baby has a frequent need to suckle for long periods, and may try to meet this need by sucking on a thumb or finger. The mother may use a pacifier to give the baby extra suckling because of the baby's discomfort at the breast. Baby's fussy periods may last for several hours, usually in the evening, or the mother may have decided not to use a pacifier because she has noticed that the baby loses interest in the breast altogether if he has something else to suck, and she is concerned that he will not get enough to eat.
- Baby's fussy periods may last for several hours, usually in the evening..
- Baby spits up frequently, sometimes vomiting up what appears like a large amount of milk after a feed.
- Baby passes a great deal of gas (flatulence).

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- Baby often has a longer period of sleep once or twice a day.

The mother may exhibit several of the following symptoms:

- a strong let-down reflex that feels painful, often repeated during one feeding
- breast milk sprays out forcefully, sometimes for a great distance, if the baby comes off the breast during a feed
- breasts may leak extensively between feeds
- breast milk leaks extensively or sprays when the baby is suckling on the opposite side
- very full breasts or feelings of engorgement much of the day, well after the first two weeks postpartum
- frequent episodes of plugged ducts or mastitis

Identification of an overabundant milk supply and forceful let-down reflex by the LC

The problems of a mother and her baby experiencing an overabundant milk supply and a forceful let-down reflex could be characterized by "too much, too fast." The baby consumes too much milk at one time, and possibly too much foremilk in relationship to hindmilk. In addition, the baby ingests air from gulping during the forceful let-down reflex. This combination of too much milk, milk with a low fat concentration, and too much ingested air results in discomfort for the infant. At the same time, the mother's overproduction of milk could result in an increasingly forceful let-down reflex and incomplete emptying of the breasts. This in turn could result in extensive leakage, fullness and engorgement, and frequent episodes of plugged ducts or mastitis.

Fussing and other "colicky" behaviour is a common trait of the child that is trying to cope with all the difficulties of an oversupply. What mothers may see most frequently is the baby who starts out the day calm and pleasant and feeding well – although maybe choking the baby does not seem to be in pain – and as the day progresses the baby gets more and more unhappy, culminating in several hours of screaming in the early to late evening, obviously related to gut pain. Presumably this is from the build-up of undigested lactose in the gut, causing fermentation and drawing water into the gut creating painful pressure. The circadian rhythm of the body allows the body to relax during the night, the gut also relaxes (perhaps some of the hormones and/or digestive enzymes that peak at night may help) and the gas is expelled. The baby wakes up well, to begin another cycle.)

Although evening fussiness is characteristic, fussing can occur at other times. Such restlessness over several hours is sometimes followed by a long period of sound sleep. This longer period of sleep (five or more hours for some infants) may contribute to fussiness later, from increased amounts of milk in the mother's breasts and a resultant forceful let-down reflex. Moreover, the extended length of time between feeds makes the baby nurse more vigorously because of hunger, causing baby to swallow more air, and become overfull. After several episodes of swallowing air, being too full, sleeping for a long sleep period, and awakening too hungry, the baby may show signs of pain and increased fussiness, and may spit or vomit up excess milk.

Another possible cause of a baby's fussiness is the baby's straining to have a bowel movement while breastfeeding. The LC can suggest to the mother that babies often pass a bowel movement more easily if they can press their feet against something, such as the arm of the couch or chair, or her hand.

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Along with concern about fussy behaviour, it is often the stooling pattern of the baby that triggers the search for information on the part of the mother. Often her baby is gassy, and the stools are green, frothy, and contain mucous or undigested curds of milk. Sometimes the mother will have been told that the green stools indicate lactose intolerance, but this condition is rarely, if ever, present in humans before the age of weaning (Riordan 1999). This is most likely a result of the baby consuming large volumes of milk having a lower fat concentration (“foremilk-hindmilk imbalance” – see section on “Breast usage and its effect on breast milk composition and volume”). On the other hand, some babies have frequent and normal stools (yellow curds or brownish-yellow paste), which could be a result of the baby consuming breast milk of appropriate fat concentration but excessive volume. In both situations, following the suggestions for management described later in this section results in a more appropriate volume and/or fat concentration of breast milk.

Inquire as to the mother's past breastfeeding history.

Occasionally women report similar problems with several babies in their families. The similarity of various mothers' reports about the early alertness, strength of muscle tone, and strong suckling exhibited by the babies with whom they experienced an overabundant milk supply and forceful let-down reflex has been noted by the various authors of this paper. The strength and effectiveness of the babies' suck as well as a maternal physiology that predisposes the mother to respond with a high milk volume may be implicated in the development of the difficulties experienced. Frequently women report similar problems with several babies in their families. It is documented that multiparous mothers produce more breastmilk at one week compared to primiparas (Ingram and Woolridge 2001), suggesting that maternal problems with overabundant milk supply may exacerbate with subsequent babies.

Before concluding that a baby is experiencing the effects of an overabundant milk supply and forceful let-down reflex, the LC needs to consider the following:

- Are the mother and baby showing most of the symptoms listed in the previous section?
- What is the mother's past breastfeeding history with other children?
- Could these symptoms indicate another medical problem?

It is essential to consider any other unusual breastfeeding symptoms that may point to problems other than an over abundant milk supply and forceful let-down reflex.

Fussiness, demands for frequent nursing, and eager rooting, may also be seen in a baby with a slow weight gain (Desmarais and Browne 1990) so it is imperative that a thorough evaluation take place before suggestions are made. Inquire whether the baby has other breastfeeding or medical problems, and whether treatment or care is being provided. In the absence of any other medical problems, babies having the symptoms described above, like other healthy infants, should have:

- many wet diapers (6 to 8 cloth diapers, or 3 to 5 disposable diapers, per 24 hours)
- two or more soft stools daily, during the first month (Health Canada 2000). After the first month to six weeks, some infants stool frequently whereas many infants stool copiously only once every 4 to 12 days on average, although longer periods also have been noted. (Weaver et al., 1988) (Shrago 1998)
- adequate to rapid weight gain (4-8 ounces per week , average 6 oz per week)
- normal infant development

Regurgitation of breast milk may be a symptom of an underlying medical condition (see below). However, Dr. Gregory White, LLL Medical Advisor, makes the statement that in a healthy baby, “spitting up is a laundry problem, not a medical problem” (Mohrbacher and Stock 1997: 47). A

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mother of a healthy newborn who is gaining well may be assured that this type of regurgitation usually dissipates by six months. Table 2 summarizes suggestions for reducing baby's "spitting up" problems.

The LC should be aware that vomiting is an indicator in a number of medical conditions, including the following:

- *gastroesophageal reflux* (GER): the painful return of stomach contents into the esophagus (with or without vomiting) usually caused by an immature and somewhat weak gastroesophageal constrictor. Some cases of unexplained, inconsolable crying may be reflux (Barmby 1998). Medical evaluation may be necessary, or, a "trial of medication" may be the preferred tactic to make a diagnosis. (Mohrbacher and Stock 2003, pg. 336-8).
- reactions to medications such as vitamin, iron, or fluoride supplements can precipitate spitting up in some babies. Allergies and food sensitivities can cause fussy behaviour, and spitting up. Artificial baby milk and solids may also cause problems if baby is being supplemented. One study (Iacono 1996) found that 41.8% of cases of gastroesophageal reflux (GER) were associated with, and probably caused by, allergy to cow's milk. It was concluded that all babies who present with GER should be screened for cow's milk allergy. "Cow's milk is the most common source of food sensitivity and fussiness in babies, perhaps because many women are encouraged to drink a lot of milk during pregnancy, which can sensitize a baby before birth." (Mohrbacher and Stock 2003: 132).
- *pyloric stenosis* (hypertrophy of the pyloric sphincter): develops mostly in male babies around two to six weeks after birth, and is 2.9 times more prevalent in artificially fed infants (Habbick 1989). Babies exhibit progressively worse vomiting (projectile vomiting a great distance), have progressively fewer wet diapers and bowel movements, become dehydrated, and lose weight despite frequent breastfeeds.
- *malrotation of the bowel, Hirshsprung's disease*, and some *neurological disorders* may also have vomiting as a symptom (Lawrence and Lawrence 1999: 494).

Suggestions for management in Stage I

The LC needs to acknowledge the mother's feelings about this situation, including feelings of frustration with breastfeeding, and anger that she and her baby are not able to enjoy the nursing relationship. The LC can reassure the mother that many women have experienced an overabundant milk supply and forceful letdown reflex, and many have found that the following suggestions can help resolve an unhappy situation.

The LC's initial suggestions for a mother experiencing Stage I could include:

- finish the first breast first, or possibly feed more than once from one breast;
- breastfeed on cue;
- do not use a pacifier
- feed immediately upon baby's awakening or when baby is relaxed and/or drowsy – maximize use of night feeds;
- achieve the deepest latch possible, when baby is willing, so baby can coordinate sucking, breathing, and swallowing better
- experiment with different upright or reverse gravity breastfeeding positions;
- try feeding while rocking, swaying, or walking

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- burp the baby frequently and effectively.

After one week of following these suggestions without resolution of the problem, the mother may benefit from using only one side per feed, or per time interval, with minimal to no switching during fussy periods. Each of these suggestions will be discussed more fully below, along with practices that are best avoided in Stage I. Suggestions to address the mother's difficulties are also given.

Finishing the first breast first, or possibly prolonging feeds from one breast

It is important that the LC ask the mother specific details about the length and style of typical feeds. Many women have been instructed to feed their babies from both breasts at each feed, and therefore interrupt the feed from the first side after a specified amount of time. The *primary suggestion* that an LC could make is to inform the mother of the guideline, “finish the first breast first.” A baby needs to complete a feed in a contented manner on the first side before being offered the second side. This usually takes at least twenty minutes, although some babies are faster or slower feeders. A baby who is squirming or restless usually needs to burp, or to release gas or a bowel movement. Many babies coping with a forceful let-down reflex will require several burpings or breathing breaks while feeding on the first side. After burping the baby, the mother needs to put the baby back onto the same side to feed until the baby comes off in a contented manner. At this point, a gentle attempt at burping could be made. Some babies will then show signs that they still need to feed on the second side. Women can be made aware of the great variety of breast usage – some babies may always require the second side to satiate, other babies may consistently feed from only one breast. Some may alternate from one-breast to two-breast feeds depending on the time of day or the age of the baby. Some will require more than one feed on the same side in order to attain sufficient fat-rich milk to alleviate symptoms of foremilk/hindmilk imbalance. (Cregan and Hartmann 1999)

A baby will breastfeed until sufficient calories are obtained. By “finishing the first breast first” and taking in more fat as the breast empties, the baby gets sufficient calories through an appropriate volume of milk. This may result in a more contented baby. In contrast, a baby trying to get enough calories but only having the lower-fat milk that is available in an overly-full breast may end up with a too-full stomach and may then spit up or vomit milk. The distended stomach may also lead to pain and thus to a desire to keep suckling for comfort. Appropriate volume of milk production would reduce the forceful let-down reflex, the engorgement, and the episodes of plugged ducts and mastitis for the mother. Appropriate proportions of foremilk and hindmilk will produce infant bowel movements that are yellow and pasty rather than green and frothy.

If infant behavior of spitting up milk, fussiness, choking or sputtering at the breast persist despite the “finish the first breast first” information, and if the baby is continuing to gain weight at an appropriate rate, the LC may suggest that the mother *limit the baby to one side per feeding*. Women tend to relate infant fussiness to a poor milk supply, and some will be reluctant to try one-breast nursings. The LC needs to reassure the mother that the baby may be spitting up milk due to overconsuming milk. Feeding on one side per feed may result in less breast stimulation and in a subsequent reduction in milk volume. The baby may then be more content and able to meet sucking needs without obtaining too much milk. During the time that a mother is making the transition to nursing on one breast per feed, advise the mother to watch for an adequate number of wet diapers and bowel movements, and monitor baby's weight gain.

The baby may wish to breastfeed frequently during fussy periods, which often occur in the evenings. Nursing the baby throughout this fussy period with *a minimum of switching from one*

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breast to the other can be a source of comfort and can help minimize both infant fussiness and maternal breast stimulation.

For some mothers, nursing on one breast at a feeding, and alternating sides at successive nursings may not reduce the milk volume and the forceful let-down reflex sufficiently to alleviate the symptoms. Many mothers have found it helpful to breastfeed on *only one breast for any feed occurring within a two to three hour interval* before switching the baby to the other side. Some women have even found it helpful to breastfeed on one side for longer periods. After four to seven days of this change, if the baby continues to have trouble coping with milk flow at feedings and/or continues to have other symptoms, suggest the mother limit the baby to one breast for a longer time to give the baby more hindmilk and further decrease the supply. Depending on the mother's supply, she may start by keeping the baby on one breast for three hours and see if that helps. If the baby still seems overwhelmed at feedings and is having other symptoms, she can go four hours or even longer, switching to the other breast after this period of time and limiting baby to that breast for the same period. Women with extreme oversupply have gone as long as six hours before changing breasts in order to better adjust their milk production (Wilson-Clay and Hoover, p 88), (Mohrbacher and Stock 2003 p.116). *These arrangements should only continue with a baby who is gaining weight appropriately.* Some women find that the baby will continue in one breastfeeding pattern for the entire breastfeeding experience, whereas others find that the baby will vary patterns depending on the age, the timing of growth spurts, and the mother's milk supply. The important element is for the LC to explain how to read a baby's cues.

If the other breast becomes uncomfortably full during the period of transition to breastfeeding on one side per feed or per interval of time, the mother may need to express *just enough* milk to relieve internal breast tension. Expressing should not be done regularly. If expressing was suggested to the mother as a way to relieve the fullness or forceful let-down reflex, this needs to be gradually reduced in frequency and/or duration. For many mothers, expressing can be accomplished by merely squeezing the breast, or taking a hot shower – ideally she should use any method that gets the milk to flow without nipple stimulation. The mother also needs to be cautioned against overproducing breastmilk above the needs of her baby, which may happen when donating milk or expressing breast milk for the purpose of storage. Such additional stimulation only compounds the difficulties she and her baby are experiencing.

Breastfeeding upon wakening and on cue

The LC can encourage a mother in Stage I to breastfeed “on cue.” Healthy, full-term infants have an innate mechanism to know when to feed and how long to feed in order to satiate (Widstrom 1990; Woolridge 1990).

Rapid eye movement in a sleeping baby is often the first indication that baby is starting to wake up. After an initial period of inactivity, a baby will begin to show some involuntary mouthing (sticking the tongue out, licking lips). Hand-to-mouth movements along with initial rooting movements (turning the head and opening the mouth) gradually grow in intensity. The mother needs to be taught to look for these cues. Putting the baby to the breast without delaying to change or bathe him ensures gentler suckling than is likely when he is fully awake and very hungry. Not only does the gentler suckling seem to be less stimulating to the breast, but the baby who is not ravenously hungry is less likely to gulp air.

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If the baby wakes shortly after drifting off to sleep, the mother could offer the least-full breast. The baby may need to burp, pass some gas, or have a bowel movement. A little more suckling on the least full breast may assist in bringing up a bubble of air. Additionally, the baby may need just a little more milk, or more comfort suckling. Since suckling soothes the baby, allowing him to do so at the least-full breast often lulls him back to sleep.

If the baby wakes up at night, close proximity between mother and baby allows for greater attention to early waking cues. Breastfeeding while the mother and baby are resting do not appear to contribute to fussy periods, perhaps because the baby nurses more gently and the mother's let-down reflex is less forceful due to a lying-down position for the feed.

The LC may also instruct the mother to be aware of similar baby cues occurring after a period of quiet alertness. Babies whose early cues have been missed may go rapidly to loud crying, although this somewhat depends upon the personality of the baby and how the baby's need to be fed or held have been met (Marasco and Barger, 1999). An upset baby often needs to be settled to enable effective breastfeeding. If an over-producing mother breastfeeds less frequently than desired, either through missed cues or through inappropriate advice about feeding frequencies, an overly full breast may exaggerate the effects of a forceful let down reflex. The more frequently the baby nurses, the less intense is the flow of milk. Offering the breast on cue, and allowing the baby to signal satiation, will facilitate more effective infant feedings, and the increased fat intake towards the end of the feeding cycle on each breast will enhance digestion of lactose. This feeding pattern will also reduce the overall production rate, and subsequently reduce the force of the let-down reflex.

Breastfeeding using upright and reverse gravity positions (Could you provide DRAWINGS beside each description?)

Encourage the mother to try different breastfeeding positions to find the ones that work best. In all of these positions the theory is to have the milk go "uphill" or at least sideways against gravity, so that the forceful let-down reflex does not shoot breast milk down the baby's throat and cause gulping and swallowing of air. A baby needs to be able to control the swallowing, allowing the milk to pool in the mouth or to dribble out of the corner, rather than being forced to swallow rapidly to keep from choking. These positions can be considered transitional tools, useful while the milk supply is being brought under control. Once the supply more nearly matches the baby's needs, some mothers and babies no longer need to use such positions. Some babies, however, continue to prefer to be protected from the force of the let-down for some time, particularly for the feeds where the supply is likely to be greatest, for example, the first feed in the morning.

For the following positions, it is helpful to support the breast, especially in the early weeks. Some suggested positions include:

- an angled "cradle hold" (in which the baby's head rests in the crook or on the mother's arm with the body lying facing the mother, across her upper abdomen) – with the use of a recliner, the arm of a couch, a chair and cushions, or her bed with plenty of pillows for support, the mother tilts back with her baby in the cradle hold so baby's neck and throat are higher than the mother's breast. The baby is essentially "looking down" upon the breast, and baby's body is angled across the mother's abdomen. This reverse gravity position is often referred to as the Australian position because the mother is "down under" the baby. The baby breastfeeds using appropriate latching technique. The baby's head should not be tilted back. Rather, it should be in line with the rest of the body, so that the ear, shoulders, and buttocks are in one plane. Support under the mother's knees may help with reclining and may relieve

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back strain. The arm that is supporting the baby does double-duty by 1. Supporting the weight of the baby's head on the upper arm so that the head does not compress the breast tissue, and 2. Supporting the breast from the side, preventing it from "sliding" off the chest wall. This supporting arm in turn needs to be supported by something firm, such as a rolled blanket tied with shoelaces or secured with elastic bands, to prevent fatigue and shifting of the baby's weight onto the breast.

- the clutch hold, or "football" hold, modified to a more upright position – use a pillow on one side of the mother, and a second pillow to support mother's hand and baby's head. Once the baby latches onto the breast, bring baby to a sitting position. The baby's buttocks will be resting on the pillow near the mother's elbow. The baby's upper back rests along the mother's forearm while she supports his upper back and neck with her hand. The mother will be sitting comfortably upright and a pillow can be tucked behind her arm for support. The baby is breastfeeding while facing the mother's breast at breast level. Once again, this prevents the forcefully ejected milk from going down the baby's throat, so the baby is better able to control the milk and less likely to choke or ingest air. (Mohrbacher and Stock 1997: 49)
- the straddle position, an alternative (Riordan 1998) to the upright football position, consists of the baby straddling the mother's leg, directly facing the breast. The mother can lean back slightly, supporting the baby at the breast so that now the baby's head is slightly above the mother's breast, making this a reverse gravity position.
- the side-lying position – some mothers find that breastfeeding in a side lying position reduces the force of the let-down reflex. The baby lies facing the mother, with the ear, shoulder and buttocks in line. (Mohrbacher and Stock 1997: 50)
- posture feeding (Phillips 1991) – the mother lies down on her back, and places her baby on her abdomen. The baby is feeding looking down on the breast, so the ejected milk goes against gravity. The mother may need to support the small baby's head.

Burping the baby effectively and frequently

A baby coping with an overabundant milk supply and a forceful let-down reflex may squirm and fuss at the breast in part due to swallowed air. Removing the baby from the breast and burping may help to prevent the air bubble from passing further into the digestive system. Babies often require several burps per feed, especially after the baby gulps air. It is therefore important for the LC to demonstrate effective burping techniques.

In the video *Burping the Baby* (1986), Franz describes how a fast-flowing milk supply can result in baby's swallowing air. When milk flow is rapid (or when baby's head is tilted back too far), it breaks the baby's rhythm and the baby swallows air. Air bubbles can form in between layers of milk in the stomach, and can form pockets in the intestinal tract. The baby becomes uncomfortable, gassy, and possibly fussy.

During a feeding, a mother can look for cues that a baby needs to burp – the baby may wriggle, squirm, or grunt, and sometimes slow the suckling. For the most part, babies will burp when they are held upright with their windpipe straight, so air bubbles can naturally rise and be released. For the baby in distress, there may be so much physical tension that burping is difficult. In this case, there are three principles of to guide the choice of further burping techniques: (a) exert gentle pressure on the baby's stomach; (b) pat the back or rub upwards; and (c) use positions that relax the baby because baby burps when relaxed. Letting baby suck on finger also helps relax the baby.

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Various positions for effective burping of the difficult to burp baby include:

- sit baby on your thigh and use the palm of your hand over baby's stomach and your thumb and index finger to hold baby's chin. Lean baby forward so that the baby's weight on the palm of your hand places pressure on baby's stomach. Pat or rub the baby's back using upward strokes.
- put baby high on your shoulder with the baby's head hanging down in order to put pressure on the baby's stomach. A man's chest is flatter, so the more traditional burping position is more effective. A woman needs to position the baby higher up on the shoulder in order to exert pressure on the baby's stomach. The baby that has a very full tummy may bring up a lot of milk along with the air when burped with this technique – the parent will need to determine if this is an appropriate technique for their particular baby.
- drape baby over your thigh, face down, so that the round of the thigh provides pressure. Hold baby's legs between your legs. Support baby's head with your hand, and pat or rub baby's back gently.
- drape baby face down over the forearm, with baby's head at the crook of your arm and hand and arm between baby's legs. This is often referred to as the "colic hold."

Burping gets air out of the stomach before it causes air pockets in the intestines. The other source of gas in the baby's intestinal tract is undigested lactose which ferments and creates excess gas. This gas cannot be relieved by burping, only by achieving a balanced intake of fat rich hindmilk. Excessive gas (flatulence), may create pain and may cause the baby to tighten the rectum (Frantz 1986). To relieve intestinal gas:

- hold baby so that baby's back is against the person's chest, and baby is facing outward with baby's head under the person's chin
- bend the baby's legs to bring knees up to the stomach, to open the rectum
- carry baby in that position until gas is released

Avoiding the use of pacifiers and supplements

In order to cope with the infant's difficulties in Stage I, many mothers resort to pacifiers or to supplements. The pacifier may have enabled an infant to obtain the additional necessary sucking, when breastfeeding resulted in regurgitation or fussiness. Replacement feeds may have been introduced to address the frustration of the baby balking at the breast.

Because a baby may suck differently on a pacifier than on the breast (Powers and Slusser 1997; Righard and Alade 1992), the use of a pacifier, especially in the first six weeks may contribute to superficial and ineffective suckling techniques. There is also evidence that pacifier use is associated with more breastfeeding problems and a three-fold risk of early weaning (Righard and Alade 1992; Victoria et al 1997), possibly due to the different suckling techniques and subsequent reduced milk production. Other researchers suggest that pacifier use is not in of itself a cause, but rather a marker of problems associated with early weaning (Howard et al 1999). Whatever the case, the use of pacifiers may ultimately result in decreased breastfeeding frequency (Aarts et al 1999). Pacifiers have also been associated with increased otitis media (Niemela et al 2000), and oral yeast infection (Mattos-Graner et al 2001). Mothers may benefit from hearing that the use of a pacifier does not comfort a crying infant any more effectively than other soothing methods (Kramer et al 2001). It is always better to try to find a breastfeeding solution to a breastfeeding problem, if the goal is to continue to breastfeed. Some babies may preferentially choose to suck on a pacifier rather than feed at the breast to avoid gastrointestinal pain and difficulties coping with the let-down, and this can lead to significant problems with weight gain and maintaining baby's interest in breastfeeding.

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Similarly, supplementation with fluids or solids is inappropriate for healthy full-term babies before *six* months of age (Lawrence and Lawrence 1999:284). Such complementary (added) or supplemental (replacement) feedings may appear to work initially, due to reduced stimulation of the breast resulting in reduced milk volume and a less forceful let-down reflex. However supplementation introduces other problems, including confused sucking patterns if bottle feedings are given, increased likelihood of an allergy or sensitivity response if artificial baby milk is introduced to the infant due to the infant's immature gut (Riordan 1999), interference with the baby's protection from disease given by the optimal nutrition of exclusive breastfeeding (Duncan et al., 1993; Riordan 1997) and increased possibility that the baby will refuse to breastfeed (Winikoff & Laukaran, 1989).

Addressing the mother's difficulties in Stage I

In Stage I, the mother often experiences difficulties associated with an overabundant milk supply, including breast fullness, tenderness and leaking, and recurrent episodes of plugged ducts or possibly mastitis. Reacting to an overabundant milk supply and forceful let-down reflex, the baby may learn a weaker sucking pattern due to the ease of obtaining milk. In an effort to control the volume and speed of the milk flow the baby may also learn incorrect sucking techniques, such as feeding with a small mouth opening, lifting the back of the tongue to control milk flow. Many mothers report hearing the baby make a clicking sound during feeding, possibly due to the tongue breaking suction (Bodley and Powers 1996). The baby's incorrect sucking technique, combined with the mother's overabundant milk supply, could result in sore nipples, overfull breasts (feelings of engorgement), plugged ducts, and breast infections (Morbacher and Stock 1999). This section will address how the LC can assist the mother in overcoming the difficulties, and in avoiding unhelpful suggestions.

Sore Nipples

Poor positioning and latch-on are the primary causes of sore nipples. The LC needs to offer the suggestions for upright and reverse gravity positioning found earlier in this article. Once the baby trusts that she will not have to endure an intrusive, forceful let-down, she may relax and be more willing to take a deeper latch on the breast. The positioning change in and of itself may enable the baby to latch on more effectively, or the LC may need to work with the mother and baby to resolve the latching difficulties. Thrush (*candida albicans*) may also contribute to sore nipples, especially in situations where the mother's nipples were not hurting previously or where the mother has a history of antibiotic treatment. The LC can refer to the Lactation Consultant Unit on Candidiasis for treatment options.

Engorgement

Early and frequent feeds at the breast, good latch-on and positioning, flexible breastfeeding routines (breastfeeding on cue), avoidance of supplements or pacifiers, and rooming-in all help to prevent initial pathological engorgement (Moon and Humenick 1989; Riordan 1998). Warm, full breasts are a normal expectation within the first two to four days post-birth (Smith 1999) due to increased blood, lymph and breast milk accumulating in breast tissue. Breast fullness rarely lasts more than 24 hours (Auerbach and Riordan 1999) and breasts usually soften within the first week postpartum. However, many women experiencing an overabundant milk supply also experience overfull breasts and engorgement well beyond the newborn period, and indeed, throughout Stage I. This problem is usually resolved when feeding patterns become more appropriate, but in the transition period the LC may offer the following suggestions:

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- if the recommendation is to change the feeding pattern so that baby is only breastfeeding on one side per feed, and the mother finds that the unrelieved side becomes uncomfortable in the first few days after the change, the mother may find it helpful to express or pump a small amount of milk on that side to relieve the pressure until her body adapts to the new breastfeeding style
- if the mother's breasts are overfull, massaging the breast, expressing just enough breast milk so baby can latch and breastfeed effectively, and using warmth (a warm, wet towel which envelops the entire breast) may help the baby latch effectively. Chilled gelpaks, massage, anti-inflammatory drugs, and cabbage leaves have all been found to relieve fullness between feeds (Mohrbacher and Stock 2003: 494; Smith 1999; Storr 1988). Cold compresses may be used for approximately 15-20 minutes between feeding sessions. Anti-inflammatory drugs may be helpful for some women; they would need to be prescribed and monitored by a physician. Cabbage leaf compresses have been found to reduce swelling quickly and may also reduce supply. The LC needs to caution the mother that they may diminish milk supply more than desired if applied for more than a few days (Minchin, p. 155) (see also Linda Smith's website at www.bflrc.com).
- reverse pressure softening may soften the areolar area sufficiently to allow baby to latch comfortably, and has the added benefit of being less stimulating than pumping and therefore less likely to stimulate further milk production (see www.breastfeedingonline.com for a description)

Plugged ducts and mastitis

In Stage I, the overabundance of milk can result in incomplete emptying of the breasts. As well, some babies coping with the forceful let-down reflex may be reluctant to breastfeed, may refuse the breast periodically, and may be sucking ineffectively, all of which could potentially lead to occurrence of plugged ducts and mastitis (LLLI FAQ 2000; Fetherstone 1998).

Management techniques for Stage I should eventually decrease the problem of overabundance of milk. In the transition period, the LC could suggest techniques helpful in alleviating any conditions that may have developed prior to improving feeding patterns, such as plugged ducts or mastitis, including: encouraging frequent feeds to drain the affected breast; massaging the breasts just before and during feeds; using warm compresses to encourage the flow of milk; making sure the baby is well-latched, using the breastfeeding position that will optimize drainage of the affected area of the breast, and resting (Mohrbacher and Stock 2003: 496-503). The mother should be advised to contact a health care professional who can diagnose and prescribe appropriate antibiotic treatment if any of the following symptoms persists for more than 24 hours: temperature of more than 100.6 degrees Fahrenheit (38.1 degrees Celsius), chills, body aches, localized pain, and/or flu-like symptoms.

Practices that are best avoided by the mother in Stage I

Prior to contacting the LC, the mother may have received suggestions for coping with overly full breasts or a forceful let-down reflex. Although some suggestions may work temporarily, problems may result if these are used long-term.

- Many mothers induce a let-down by manually expressing before a feed to prevent the baby from gulping, sputtering and choking. This may work temporarily for a feed or two, but this practice will inevitably lead to increasing the supply as the body responds to the extra stimulation and adapts to producing the extra milk that the mother is expressing. Likewise, pumping, in the short or long term, will exacerbate an oversupply. Following the suggestions for Stage I should reduce the milk volumes, and hence the force of the let-down reflex. If the baby comes off when the let-down occurs, the mother can allow the milk to run off into a

towel. This can be helpful to the baby as it will reduce the force of the milk flow when the baby goes back on, and yet will not stimulate a greater supply.

- The mother should avoid scissoring the areola tightly between two fingers in order to attempt to control the let-down reflex. This may actually interfere with the baby's correct latch and with milk drainage. Rather the LC may need to review alternative breastfeeding positions to help the mother and baby cope with the forceful letdown reflex.
- Avoid consuming herbs in the form of teas, foods and supplements which are used as traditional remedies in many places in the world, if the mother does not know what the purpose and/or effect is intended to be. These may be offered routinely to new mothers and since some of these herbs may act as *galactogogues*, or substances that promote stimulation of breast milk production, mothers may find that a particular product may induce or aggravate an already overabundant milk supply. Common galactogogues include anise, fennel, fenugreek, hops, marshmallow, and blessed thistle (Lawrence and Lawrence 1999:376; Riordan 1999:40).

Summary of Stage I

Tables 1 and 2 summarize suggestions for management of an overabundant milk supply and a forceful let-down reflex during the first stage, usually from birth to three months. These suggestions prove useful for the situation of foremilk-hindmilk imbalance as well as overabundance of milk.

The LC needs to prepare the mother to expect a transition period of at least one week, and sometimes longer, for the suggested management techniques to make a noticeable difference for the mother and baby. These suggestions will not only help mothers cope with the problems encountered in Stage I, but will largely prevent the occurrence of Stage II.

Management techniques for Stage I should quickly decrease the intensity of the problem of overabundance of milk for almost all mothers and babies. However, for some, full resolution of the problem may take time, flexible application of a variety of coping techniques, and patience.

STAGE II: THREE TO SIX MONTHS

Even if a mother has not used any of the suggestions for Stage I, the symptoms of a strong let-down reflex often subside around the third month. However, new symptoms may appear that, at first glance, seem to be unrelated to those seen earlier. Often between three and six months postpartum (although this can occur sooner), the mother may contact a health care provider describing a situation which relates to an earlier overabundant milk supply and forceful let-down reflex which was not recognized in the first stage. But both the description of the problem as well as the appropriate management strategies can be very different in Stage II.

The LC should be aware both of the point of view of the mother who still is coping with the Stage I problems identified earlier, as well as the viewpoint of the mother who has just realized she has a problem.

The situation as the mother sees it

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If a mother has not contacted an LC about her earlier overabundant milk supply and forceful let-down reflex, her description of the situation may be misleading. The LC needs to be aware that the following statements may indicate that the mother is experiencing problems related to Stage II:

- *"My baby seems to be weaning himself."*
- *"My baby refuses to nurse."*
- *"My baby is on a nursing strike."*
- *"My doctor has ordered me to wean (or supplement) because my baby is no longer gaining weight."*
- *"My baby keeps biting me."*
- *"I am losing my milk."*
- *"I am having another breast infection."*
- *"My periods have just returned. Isn't that too early?"*
- *"My baby doesn't like to nurse (or doesn't like me)."*
- *"My baby cries and screams when I try to nurse him."*

Other statements mothers may use:

- *"My baby is not having as many wet diapers as before."*
- *"Is it normal for babies to nurse less often as they get older?"*
- *"I feel like I don't have any milk left – my breasts were always full before, and now they seem empty."*
- *"I don't feel my let-down reflex anymore."*

Symptoms of the infant and the mother

The problems described in Stage II usually occur when the baby is between three and six months old, but these could also occur earlier. Infants may exhibit a range of symptoms varying in their intensity.

Symptoms of the infant:

- balks at the breast or refuses some feedings even when the mother feels he wants to suckle
- looks very hungry, rooting and fussing, but may refuse when offered the breast
- nurses frantically for a brief period, then pulls away, arching and screaming
- refuses to feed if the mother switches breasts during the feeding
- may suddenly go on a nursing strike, refusing to breastfeed at all
- "bites" the breast
- will not nurse to sleep or relax at the breast possibly due to negative conditioning to the breast
- sucks a thumb or pacifier in order to fall asleep
- may have sub-optimal or slow weight gain after developing quite well in the first three months.

Symptoms of the mother:

- may continue to produce an abundance of milk and leak profusely, or,
- may feel that her breasts have "finally" become less full
- may have begun her menstrual periods (much earlier than she expected)
- may report a change in her let-down reflex – she may not even feel the sensation of a let-down at this point

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Some mothers may not seek help until the second stage for a variety of reasons. For example, the baby may not have been very fussy, or the mother may have been told that such restlessness or colic would disappear without intervention at around three months of age. In addition, the baby's choking and sputtering during the forceful let-down reflex may not have been severe, or the mother may have regarded it as an indication that her baby was receiving enough milk.

Furthermore, her less full breasts may be read as an indication that she has finally established a more appropriate volume of milk for the infant.

The change in breastfeeding patterns may be so gradual that the mother does not notice it at the time. When she sees that the frequency of breastfeeding has decreased, she may initially attribute this to a culturally acceptable idea that infants decrease the number of feeds as they become older. Many books and pamphlets encourage fewer feedings within a few weeks or months of the baby's birth, suggesting that less frequent feedings are normal and a goal for which to strive. Often the baby's reduced nursing occurs at about the time the mother is interested in becoming more active outside the home. The mother may perceive the baby's reluctance to breastfeed as a normal development; this may encourage her to think that she can go ahead with her plans to pick up old activities or to explore new ones. If the process is advanced, and the mother has become concerned about the child's food intake, she may have introduced supplements or solids in an effort to get the child to eat, and this may also play a role in the decline of the breastmilk supply. She may only realize there is a problem when the baby actually refuses to breastfeed at all. The breast refusal and subsequent decline in milk production occurs on a continuum. If the mother calls at the beginning of the continuum, when the baby has just figured out he can refuse to feed and before her supply has declined drastically, the situation is very different than if she calls much later in the process, when she may have an alarmingly low supply. Many mothers have worked out elaborate strategies for feeding the baby because of all the fussing in the previous months and will maintain a supply for quite some time even through this stage.

Although not all thumb-sucking is related to the overabundant milk supply and forceful let-down reflex, most of the babies so affected suck vigorously at their thumb, fingers, fist, and/or pacifier. The mother may have encouraged non-nutritive sucking of a pacifier because of social expectations. Such nonnutritive sucking is the baby's way of meeting the sucking need that cannot be satisfied comfortably at the breast. The baby may so often substitute the pacifier or thumb for feeds that the mother's milk supply dwindles from lack of stimulation. Some babies may also find suckling at the breast more difficult if they use a pacifier to meet their sucking needs (see Section I on pacifier use). Often the baby who seems to be sleeping through the night is actually sucking a thumb or finger instead of giving hunger cues.

Identification of Stage II by the LC

The negative behaviors of the baby will be the most dramatic clue to the mother and LC that a serious breastfeeding problem has developed. The description of such behavior can be just as dramatic from the mother of the baby who has been struggling since Stage I as it is from the mother who has only recently become concerned with this behavior.

While taking a history and exploring the many facets of the problem presented by a baby who is reluctant to nurse or who refuses to nurse, the LC should be aware of the intensity of the mother's feelings. She may feel rejected by the baby, confused by a situation she does not understand, frustrated in her efforts to change the situation, angry that the baby will not nurse when he obviously is hungry and in need of nourishment, and fearful that she is losing the closeness of the nursing relationship. Often she is discouraged because she feels that the adjustments of

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breastfeeding should be over. She is tired, both emotionally and physically, and may feel she is a failure.

There are two possible explanations for the behavior of the baby in the second stage. The first explanation is that the Stage I scenario of “too much, too quickly” may result in negative conditioning to the breast because of the baby’s inability to control the volume and force of the milk. However, the baby has figured out that he can control his head and can deliberately refuse to feed. Since suckling at the breast is no longer a source of contentment, and the baby only feeds when desperately hungry. Comfort sucking is transferred to the thumb or pacifier, which does not choke the baby or compel the baby to swallow. This explanation is supported by observations of babies who are gentled back to breastfeeding and who subsequently become eager to nurse. A second explanation could be that the breast milk volume, and subsequently the force of the let-down reflex, diminishes because of the lack of appropriate stimulation due to infrequent feeds. The baby becomes frustrated at not obtaining breast milk as quickly as has been the norm in Stage I, and, in fact, may not have the skills required to effectively strip milk from the breast with active suckling as she has only had to receive it before. In both these situations, the LC may observe the baby who screams at the breast, arches his back as he pushes away with mother’s reaction being equally intense. Biting may occasionally be one of the symptoms of breast refusal (Mohrbacher and Stock 2003:478).

Many mothers at the beginning of this process are more likely to have plugged ducts and/or breast infections at Stage II, due to the baby’s reluctance or refusal to breastfeed. The change from a strong sensation during the let-down reflex to a complete absence of sensation can occur very quickly, often happening at a time when other stresses are present. A diminished let-down reflex as the baby gets older is a normal experience for many women, and mothers also experience variations in let-down sensations during the course of the day. However, the combination of a dramatically changed let-down reflex, the baby’s refusal or reluctance to feed *and* a change in the baby’s weight gain pattern indicates a need for the LC to investigate.

The LC should also be aware that the baby who is refusing to breastfeed a significant amount of the time, and who is not receiving other food, *may no longer be gaining weight adequately or may be mildly dehydrated*. This change may go unnoticed because babies are not weighed as frequently, nor are they seen as often for evaluation by professionals, after two or three months of age. The baby’s condition may come as a surprise to the mother. This needs immediate attention to ensure that the baby is sufficiently hydrated and receives enough calories. For the first three months a baby’s normal weight gain is 4 to 8 ounces a week, but from four to six months the normal weight gain is 4 to 5 ounces a week (Mohrbacher and Stock 2003:148.)

Suggestions for management in Stage II

Changing the breastfeeding patterns that have developed since birth demands time and commitment from both the mother and the LC. Offering the mother an overview of the situation, and providing suggestions that can improve the nursing relationship, will help her decide upon suggestions appropriate for her situation. Some women may be eager to do whatever is necessary to maintain the breastfeeding relationship, whereas others may not want to commit themselves when they recognize the time and effort such changes will require. Most mothers can be offered the hope that the situation will improve if they implement management suggestions for Stage II.

The suggestions for Stage II include:

- helping a baby who is balking and refusing the breast;

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- encouraging an appropriate maternal production of breast milk; and
- supplementing the infant when necessary.

These suggestions are outlined in more detail below.

Helping babies overcome reluctance to breastfeed

Mothers need encouragement to offer the breast frequently, without forcing the baby to breastfeed. Often, the more a mother forces a baby to the breast, the more the baby balks at the breast. This may make the mother feel that she is walking an emotional tightrope. She will be tempted (or may already have tried) to push the baby onto the breast – she needs much emotional support and encouragement to handle her baby gently and to remain calm. The LC needs to explain the importance of “gentling the baby” back to the breast.

Skin-to-skin contact is important for breastfeeding as well as for the mother’s and baby’s enjoyment. Gentle handling, rocking, stroking, walking, singing, talking, and cuddling against the mother’s skin (including the breast) *without the expectation that the baby must breastfeed* is helpful to both mother and baby and vital to re-establishing breastfeeding for the baby who is balking at the breast or refusing to nurse.

As in Stage I, the mother needs to offer the breast before the baby is actively awake and hungry. Some babies will nurse well when half asleep or when almost ready to wake. Even babies who have not breastfed for several days may be willing to feed just before full wakefulness or during a longer period of sleep such as during the night. The baby is often least likely to breastfeed willingly while going to sleep.

If the baby has favorite places and times for breastfeeding, the LC can encourage the mother to use these frequently. The LC can also help the mother consider alternate nursing times and/or places enjoyable to both her and the baby, such as in a warm bath or in a darkened room away from distracters. The mother may also offer the breast at times when the baby usually sucks a thumb or a pacifier, but she should offer gently because forcing the baby to nurse can set up a struggle between mother and baby. Offering the mother support to reduce or eliminate pacifier use may be one step in encouraging the baby to suckle more often at the breast (Mohrbacher and Stock 1997:132).

If the baby is breastfeeding contentedly, the LC can encourage the mother to allow the baby to remain at that breast. Moving the baby to the other breast should be avoided unless the baby is truly finished the first breast and shows willingness to feed on the second breast. Mothers may need to continue the one breast per feed approach for some time to avoid recurrence of breast refusal.

For some babies, varying breastfeeding positions may increase their willingness to breastfeed. Many babies nurse more willingly while the mother is walking, lying down, or holding the baby in a sitting position facing her while straddling her lap.

In situations of breast refusal, the LC can assist the mother to see the act of breastfeeding as the culmination of many small “baby steps” – being placed in a certain position, latching on correctly, suckling effectively, and completing a feed to satiation. Each step is part of the overall goal of gentling a baby back to breastfeeding. Helping the mother identify small steps of progress toward the ultimate goal encourages her to work toward this goal in a more positive

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manner. For example, a mother may need to work on positioning the baby in a sitting or upright football hold as a first step, without expectations of feeding. She may want to talk gently to the baby, or offer cup-feeds or spoon-feeds while the baby is in a position very close to a breastfeeding position. After baby seems comfortable in this position, the mother may wish to cuddle the baby skin-to-skin close to the breast during a time that the baby seems content. Eventually, the baby may transition to brief suckling at the breast. The key at each point is to avoid forcing or frustrating the baby during any of these transitional steps to breastfeeding.

It is important for the LC to prepare the mother to expect unusual behavior when the baby's breastfeeding pattern begins to change. An improvement is signaled by the baby's willingness to nurse at some or all feedings. Some babies may initially want frequent but brief breastfeeds. Some babies who previously slept through the night may begin waking frequently to nurse. But the mother needs to know that the path to improved breastfeeding will not necessarily be smooth. Often one or more enjoyable breastfeeds can be followed by distressing behavior, including reluctance or refusal to nurse for the following feed. However, once the baby *begins* to breastfeed better, the trend toward general improvement will most likely continue. Emotional support by the LC during this transition time is essential, and helping identify a baby's progress is helpful to the mother's continued willingness to be patient with small steps toward the goal.

When supplementation is advised

When weight gain has slowed dramatically, or when the baby is showing signs of slight dehydration, appropriate additional feedings are most likely necessary. Ideally, such feedings should be offered in a manner that does not compromise suckling at the breast. Some mothers may choose to pump their breasts to obtain additional breast milk. Others may choose to use a breast milk substitute, but this option will not increase the breast milk supply. Still others may choose a combination of these two options.

Additional breast milk or other supplement may be given to the infant using a cup, a spoon, or other alternative feeding devices. If a baby is already receiving alternative feeds, the mother needs to be advised that drastic weaning from additional feeds is ill-advised. There is no support for the theory that a baby who is hungry will suckle at the breast more readily. There are many resources which describe alternative feeding methods such as cup-feeding and spoon-feeding, as well as techniques to "gentle a baby" back to the breast (suggested references include: Ross 1987; Mohrbacher and Stock 2003: 138-141; Riordan and Auerbach 1999: 101; 328-30). Nursing supplementers, which rely on at-the-breast suckling to provide fluid additional to what the mother is providing, may not be suitable, especially when an infant is refusing to breastfeed. Refusal to accept the breast usually remains unchanged by the presence of such a device.

In situations where supplementation is necessary, the mother can offer small amounts *before* attempting to breastfeed the baby. Taking the edge off the baby's hunger may reduce the possibility that the baby will become frustrated while relearning to suckle at the breast. Such feeding can also help meet nutritional needs without satisfying the baby so completely that the opportunities to breastfeed are reduced. Alternatively, some babies do better if they feed briefly at the breast and then take the supplement to complete the feed. However, supplements should not be introduced if the baby's weight gain is adequate throughout the process of increasing the frequency of breastfeeding.

Steps in increasing baby's weight gain and overcoming baby's refusal to breastfeed

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The infant's weight needs to be monitored throughout the process of helping a baby who needs to gain weight. The LC can help the mother and baby by suggesting the following steps (these are adapted from LLL Reprint on Nursing Strike #62 and Mohrbacher and Stock 2003:168-171):

1. Will baby latch on? If yes, go to step 2. If no, see steps 5 and 6.
2. Will baby stay latched on to the breast? If yes, go to step 3. If no, see steps 5 and 6.
3. Do you hear baby swallowing? If yes, go to step 4. If no, see steps 5 and 6.
4. Encourage frequent feeds (finish the first breast before offering the other side), skin-to-skin contact of mother and baby, and sleeping in close proximity to enable mother to monitor feeding cues in the night.
5. Assess whether baby needs to receive extra milk.
6. Discuss options for feeding the baby – types of milk (expressed breast milk or artificial baby milk) and methods of giving the milk (cup, spoon, eyedropper).

Summary of Stage II

Table 3 summarizes suggestions for management of the long-term effects of an overabundant milk supply and a forceful let-down reflex, resulting in patterns of breast refusal by the infant and a possible decline in milk volume and in patterns of breast refusal by the infant. The LC needs to be prepared to help a mother during this emotional time period and gradual return to a positive breastfeeding relationship.

THE LONG-TERM PICTURE (SIX MONTHS AND BEYOND)

Frequently the baby who breastfed reluctantly in the early months but whose distress at the breast has been reduced through the suggestions outlined in this article becomes eager to nurse and enjoys being comforted at the breast.

Despite a mother's willingness to breastfeed and her desire to resolve the situation, a few mothers and their babies find the struggle to solve the earlier breastfeeding problems too difficult, and the baby may wean prematurely. In part, the outcome will be determined by the stage and degree of complexity of the situation at the time the mother and LC determine that a breastfeeding problem is occurring. If the baby weans sooner than the mother had anticipated or desired, especially if she anticipates breastfeeding beyond the first year, the LC needs to recognize the legitimacy of the mother's deep feelings and desire to breastfeed her infant into toddlerhood (Bumgarner 2000). At the same time, the LC can help the mother understand the reasons behind her infant's behavior.

The mother needs support and encouragement to enjoy the positive aspects of her mothering experience that occurred while her baby was breastfeeding, and can continue to occur after weaning, such as closeness, cuddling, and skin-to-skin contact.

The LC can assure the mother whose baby is still breastfeeding, even if difficulties persist, that experience shows most babies who breastfed reluctantly in the early months but whose distress at the breast has been recognized and subsequently reduced through the outlined suggestions become eager to nurse and enjoy being fed and comforted at the breast.

The LC may find that the mother needs to talk about the reasons why breastfeeding is still important for her baby. It may be critical to review the benefits that accrue to both mother and baby from continued breastfeeding, because there may be very little support for continuing in the

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face of reluctance and difficulty from the other people in the woman's life. Many people are under the misconception that the nutritional value of breastmilk declines over time. The mother can be reassured that her milk continues to provide optimum nutrition for her child, as well as ongoing immunities. Discussing some of the benefits that are dose-dependent may be especially encouraging to her. The reasons for choosing to breastfeed are often very different from the reasons that women give for continuing to breastfeed. The latter are often more related to the relationship with the baby and feelings of intense bonding and love. Sharing a discussion about these issues may be very meaningful for the mother.

OVERALL SUMMARY

This paper describes the symptoms and techniques designed to assist women in overcoming breastfeeding difficulties associated with an overabundant milk supply and forceful let-down reflex. Usually these are temporary problems alleviated by good management techniques.

However, inadequate information resulting in poor management may magnify early difficulties and frequently the situation worsens. The difficulties of overabundant milk supply and forceful let-down are often manifested in two stages: Stage I, the early period (up to about three months of age); and Stage II, the intermediate period (three to six months of age).

A mother's comments and queries to the health provider along with the symptoms of the infant and mother can help to identify an overabundant milk supply and a fast let-down reflex. The LC needs to assess the symptoms, experienced by the mother and baby, the mother's past breastfeeding history and whether these symptoms could be linked to another medical problem. A healthy, full-term newborn with many wet diapers, two or more soft stools daily during the first month, adequate to rapid weight gain and normal infant development are pre-requisites before concluding that the mother's overabundant milk supply and forceful let-down are producing the symptoms.

In Stage I (usually in the first three months) good management techniques may alleviate the symptoms. Since there is a variation in fat concentration and milk volume, the healthy newborn needs cue-led feeds. The guiding principle to feed on-cue, letting the baby finish the first breast first may result in feeds at both breasts, one breast per feed, one breast for more than one feed over a period of time, or a combination depending on the needs of the infant. Other suggestions are feeding immediately upon baby's awakening and any time the baby is receptive while relaxed and drowsy, using a variety of upright and reverse-gravity breastfeeding positions, and, for the baby that is gulping and taking in air while feeding, burping the baby frequently and effectively. Suggestions that may exacerbate the symptoms are: deliberately expressing off the foremilk before each feed; anything that would tend to increase the supply such as consuming herbs or medications that are galactogogues; and techniques that would tend to interfere with the establishment or continuation of effective and satisfying breastfeeding, such as using pacifiers and early supplementation. The mother will know if the interventions she is employing are successful within a few days, as she will see positive changes in the baby's demeanor, stooling, spitting up and feeding behaviour.

In Stage II (usually in the three to six month time period) a mother's initial symptoms may have resolved but any unhelpful management techniques she may have experimented with will likely have created new symptoms. In identifying Stage II the LC will take a history and inquire about the symptoms of the problem as well as acknowledging the mother's feelings about the situation.

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The suggestions for Stage II include: helping a baby who is balking at or refusing the breast; encouraging an appropriate maternal production of breastmilk; and supplementing the infant when necessary. Sometimes weaning occurs. The LC can offer support and encouragement for the mother who is still struggling or who has weaned.

The long-term picture would hopefully see a baby become eager to nurse and be comforted at the breast, and a mother who is confident in her ability to feed and comfort her baby.

The quality of the breastfeeding relationship between the mother and child is precious. It is also vital to the health of the mother and to the long-term emotional and physical health of the child. When working with mothers and babies struggling with the effects of over-production and fast let-down, the LC has the opportunity to make a profound difference in the life of the mother and child, assisting in recovering and preserving the breastfeeding relationship for both to enjoy.

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About the Authors

Frances Andrusiak has an M.S.W. from the University of Manitoba. As a former La Leche League Leader her contacts with hundreds of mothers led to her observations of the large numbers of babies who exhibited reluctance to nurse in spite of mother's interest in continuing breastfeeding. She was particularly impressed with the similarity of babies' behaviors when they resisted breastfeeding. After developing and discarding several theories about the cause of this behavior she proposed that there was an important role of too much milk, too fast in the development of this behavior. Frances has recently retired as executive director of Serena Manitoba Inc., a natural family planning organization. She has specialized in speaking and counselling on LAM (The Lactational Amenorrhea method of natural family planning).

Michelle Larose-Kuzenko has a B.A., B.Ed. and P.B.C.E. from the University of Manitoba. A former La Leche League Leader, Michelle also experienced many of the breastfeeding issues described here and took an active lead in isolating and writing about the symptoms and suggestions for managing a forceful let-down reflex. After speaking at conferences in Manitoba and northern central U.S., Michelle and Frances received so much feedback from mothers about the timeliness of their observations and the support and encouragement it afforded them. Subsequently, they were asked to publish their observations and suggestions for management of the overactive let-down reflex. Michelle is currently a teacher-librarian in an elementary school.

Patricia J. Martens (B.Sc., Cert.Ed., M.Sc., IBCLC, PhD) has been a La Leche League Canada Leader since 1984, and a certified lactation consultant since 1987. As an assistant professor in the Department of Community Health Sciences at the University of Manitoba, her research often involves breastfeeding issues, including breastfeeding decision-making and evaluation of breastfeeding programs (hospital, peer counsellor). Through her experience of an overabundant milk supply with her own two children (born in 1979 and 1984), she has worked extensively as an LLLC Leader to help women overcome such difficulties.

Linda Romphf (IBCLC) has been a La Leche League Canada Leader since 1983, and a certified lactation consultant since 1999. As a breastfeeding peer counsellor trainer, (Texas Dept of Health 1998) her work involves teaching and writing on many breastfeeding issues, including common concerns. Her experience with foremilk hindmilk imbalance with her first child and an overabundant milk supply with the next two provided insights into her work as an LLLC Leader.

Sandra Yates (B.Sc.Kin., Cert. Ed., IBCLC) has been a La Leche League Canada Leader since 1985, and a certified lactation consultant since 1988. She authors

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and instructs the Douglas College Breastfeeding Counsellor Certificate Program and 18-hour Breastfeeding Education Course, and trains new instructors. She writes and speaks on breastfeeding issues and helps mothers directly with breastfeeding their babies. She has had a particular interest in over-production and over-active let-down since observing this phenomenon early in her work as a Leader, unexpectedly reinforced by her own experience with her second child.

Table 1
Management Suggestions for Stage I
(Newborn to Three Months Old)

After ruling out any medical problems, the LC can offer suggestions to assist the mother and baby in relieving the symptoms of Stage I.

Step One

1. Encourage mother to finish the first breast first. Many babies will want to feed from one breast only for some or all of their feeds, whereas other babies will clear the first side, then take the other side to finish the feed.
2. When the baby wants to nurse soon after the last feed, encourage the mother to use the breast last used.
3. Suggest that the mother breastfeed during the baby's fussy periods with a minimum of, or no, breast switching.
4. If after doing the above for 4-7 days baby is still showing original symptoms, then encourage mother to use only one breast per feeding
5. Encourage mother to watch baby for waking and feeding cues and respond at the first sign of the cue, before the baby becomes too wide awake or frantic.
6. Suggest that the mother feed the baby whenever the baby begins to suck on a thumb, finger, or fist to avoid the baby getting too hungry and then being frantic at the breast, stimulating a greater supply. If it is shortly after another feed the mother should offer the less full breast for comfort suckling.
7. Encourage the mother to breastfeed using upright or reverse gravity positions, to protect the baby from the force of the let-down, at all feeds at first, then only at those where the mother and baby anticipate a stronger let-down.
8. Ensure that baby is well latched and well positioned, by latching when baby is calm and receptive whenever possible.
9. Encourage the mother to burp the baby frequently and show her how to do it effectively when baby doesn't burp easily just by being held upright.
10. Suggest that the mother avoid giving the baby a pacifier.
11. Suggest that the mother avoid supplementing the baby with other fluids or solids.

Step Two

12. If symptoms persist after 4-7 more days of this very conservative start, offer information that mothers may want to use the same side whenever the baby wishes to feed within a two- to three-hour time frame. This is especially useful for the fussy baby who is going to the breast frequently and gaining well.

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13. If the baby still spits up milk after a feed, has colicky behaviour and explosive bowel movements, etc. encourage the mother to extend the time frame.

Table 2
Suggestions for reducing a baby's "spitting up" breast milk during Stage I

Although spitting up can be a normal part of baby life, one of the responses to a forceful let-down and an abundant milk supply is an infant who spits up (regurgitates) breast milk regularly after a feed. To reduce this, the LC could make the following suggestions to the mother:

1. Suggest that the mother finish the first breast first, and offer the second breast only if the baby is still showing signs of hunger.
2. Watch for baby's feeding cues, and offer the breast at the first signs.
3. Position the baby in an upright position for breastfeeds, such as a modified football hold or the straddle position.
4. If a baby is choking or sputtering at the breast, temporarily remove the baby to allow the milk to run off a bit, before putting baby back on..
5. Teach the mother effective burping techniques, and encourage her to try burping the baby when the baby squirms or pulls at the breast.
6. Keep the baby upright after feedings for 20-30 minutes, or until baby burps. (Mohrbacher and Stock 2003 p.46)
7. If the spitting up persists, along with other symptoms of an over-supply, suggest to the mother that she feed the baby only on one side within a two- to three-hour time frame. This time frame could be extended if the baby continues to have problems.

Table 3
Management Suggestions for Stage II
(Three to Six Months Old)

1. Encourage the mother to offer the breast before the baby is fully awake or when relaxed and drowsy.
2. Help the mother determine the places, times and positions the baby favors for breastfeeding.
3. Suggest that the mother take advantage of those times when the baby nurses well, without forcing the issue.
4. Help the mother and baby to experience skin-to-skin touching and comfort at the breast without necessarily expecting the baby to suckle during the time she is gentling the baby back to the breast.
5. Encourage the mother to obtain regular evaluations of the baby's weight gain.
6. Advise the mother that supplementation (preferably with expressed breast milk) may be necessary if the baby is showing signs of poor weight gain or dehydration.
7. The baby that learns to trust that feeding at the breast will not be overwhelming or cause pain may eagerly return to the breast and be content to find food and comfort there.