

THE BREASTFEEDING ANSWER BOOK



MILK EXPRESSION

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Worldwide breastfeeding recommendations

The World Health Organization (WHO) recommends exclusive breastfeeding for six months and continued breastfeeding for a minimum of two years (WHO 2002). The WHO has ranked the possible breastmilk feeding options as follows: 1) direct breastfeeding at the mother's breast, 2) mother's fresh expressed breastmilk, and 3) mother's expressed breastmilk previously refrigerated or frozen (WHO 2002).

Sometimes mothers must express breastmilk to achieve their breastfeeding goals and to be able to breastfeed for the recommended duration. The ultimate goal of milk expression is to help the mother breastfeed her baby by getting her baby to or back to the breast.

When expressing breastmilk is necessary

First and foremost mothers need encouragement and support to breastfeed. Our second obligation is to help mothers provide expressed milk when they are unable breastfeed. Caution is warranted to ensure we don't portray pumping as a requirement to successful breastfeeding for all mothers. While providing expressed breastmilk is beneficial, there are additional benefits to directly breastfeeding. Help every mother who must be separated from her baby by encouraging her to put her baby to her breast when it is a feasible option for her and her baby. Options will depend on whether there are physical problems such as a cleft lip and palate, or if mother and baby are separated due to hospitalization or mother's employment.

Review of the research comparing various breast pumps to each other and to hand expression, found no significant difference in the following factors: maternal satisfaction, adverse events, bacterial contamination, milk volume. There is no specific type of pump (manual or electric), method of expression (hand versus pump, simultaneous or sequential expression) or suction pattern that mothers prefer (Cochrane 2011).

Mothers have many factors to consider when selecting a method of milk expression. These factors influence the desirability, acceptability and effectiveness of the chosen milk expression technique. The data does not clearly indicate if hand expression, manual, or electric pumps are superior for any particular mother. Information about low cost methods like breast massage and relaxation should be explored and discussed along with hand expression and pumping. The most suitable method for milk expression may depend on the time since birth, purpose of expression, location of expression and the individual mother and infant (Cochrane 2011).

Choose a pump with different sized flanges or breast shields

Some pumps have the option of different sized breast shields or flanges. A well fitting flange will allow for comfortable pumping and a good flow of milk. A mother should be comfortable both while pumping and afterward. While pumping, she should see her nipple moving easily in the tunnel of the flange, pulling her areola slightly with it. Her nipple should not rub against the sidewalls of the flange (Jones 2009).

When a baby is hospitalized

When infant illness or prematurity requires prolonged hospitalization, a mother may be unable to feed her baby directly at the breast for some time. In this situation focus on establishing an ample and full milk supply. This is best done and most easily explained by helping the mother start and maintain a milk expression pattern that closely resembles what a healthy term infant would do naturally.

Maximum total milk production is set early in lactation so have a mother focus her efforts on regular breast stimulation and milk removal. Mothers should begin expressing as soon as possible after birth. Regular breast stimulation at a minimum of 8–12 times per 24 hours or approximately every 3 hours, including through the night is ideal until lactation is well established. Acknowledge that for some mothers it will be difficult to achieve 12 expression sessions, especially when there are other children that need her attention or when her new baby is hospitalized. Explore ways, such as expressing every 2 hours for a period to allow for a 4-hour period without expressing, that might allow her to fit in the recommended number of sessions.

The best method for milk expression is not clear (Cochrane 2011). During the initial post partum period before the onset of copious milk production milk volumes are small and hand expression might be as or more effective and comfortable (Ohyama 2010 and Flaherman 2011). When prolonged milk expression will be required, most experts recommend an electric hospital grade multi-user pump to allow a mother to express her breasts simultaneously, which has been shown to save time. Hands on pumping significantly increases the volumes expressed (Morton 2009). Hands on pumping or breast compression during pumping can be viewed at <http://newborns.stanford.edu/Breastfeeding/MaxProduction.html>

Importance of milk ejection reflex (MER)

Regardless of expression method, stimulating the milk ejection reflex is key. Eighty-five percent (85%) of the total volume expressed occurs during the first two milk ejection reflexes (Kent 2008). Suggest mothers pump for two minutes after the last flow is seen, for a minimum of about 15 minutes. More frequent shorter pumping sessions are more effective than fewer longer pumping sessions. Using relaxation techniques such as structured breathing taught for use during labour and visualization can help. She might picture a relaxing setting like a warm beach with her baby snuggled close to her and her milk flowing like a waterfall. A mother can use photos and recordings of her baby, and his clothing for tactile and olfactory reminders to help stimulate her milk ejection reflex. Relaxation techniques have been shown to improve milk yield (Cochrane 2011). Over time mothers often become conditioned to having a let down to the pump.

Regular separation of mother and her baby

Many breastfeeding mothers who are regularly separated from their babies, for example when working outside the home, choose electric single-user pumps capable of pumping both sides simultaneously. Other women are able to maintain milk production by hand expressing while away at work and breastfeeding when with their baby (Valdes 2000). Some mothers find improved success when hand expression is combined with pumping (Morton 2009).

A mother can aim to express in a pattern similar to her baby's typical breastfeeding rhythm. Breast storage capacity and infant nursing style varies widely. Encourage each mother to design a breastfeeding and expressing regimen that works for her and her baby.

Occasional separation of mother and her baby

Some women will want to occasionally express milk for their infant either for a temporary separation like a doctor's appointment or to have expressed milk available to mix with complementary foods. In this situation hand expression or a small, single-user manual or battery-operated pump that can express one or both breasts at the same time is fine.

How can we best support women who choose to express their milk?

By teaching mothers hand expression, helping them to choose among the different classes of breast pumps, and assisting with designing an expressing regimen to protect milk production so each mother will have an ample milk supply when her baby is able to breastfeed directly at the breast. Breast storage capacity and infant feeding patterns vary significantly amongst mothers and babies so suggest a mother try to reproduce her baby's feeding rhythm/pattern when she is away from her baby and expressing/pumping. Suggest she begin expressing several weeks before returning to work.

Information and data about expressing and pumps needs to be interpreted cautiously; much of the research on pumping is supported by pump companies. Also many of the studies suffer from the typical biases of small numbers, inadequately powered to answer the question, lack of randomization and blinding – in addition to commercial funding.

We cannot assume all breastfeeding benefits documented for a mother and baby will be provided from expressed milk. While praising mothers for their efforts to provide expressed milk for their infants, stress the benefits from and importance of direct breastfeeding.

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